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Report No. 1

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Identifying and Describing Segments of Consumptive Users of Fish and Wildlife in the United States

Volume IV: U.S. Fish and
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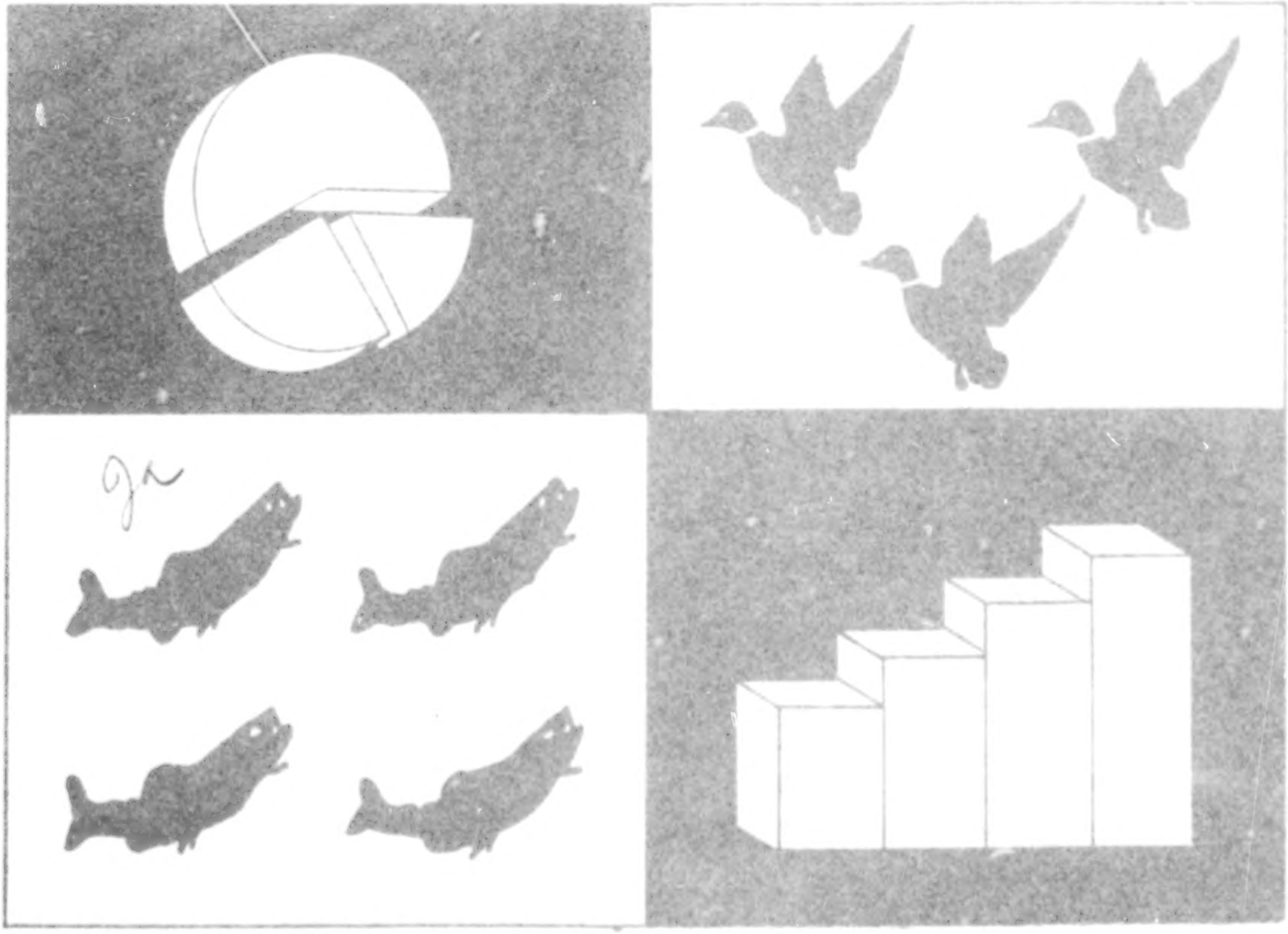

ANALYSIS OF THE 1980 NATIONAL SURVEY OF FISHING, HUNTING, AND WILDLIFE-ASSOCIATED RECREATION

Report No.

1. Identifying and Describing Segments of Consumptive Users of Fish and Wildlife in the United States

    - Volumes I-VII correspond to U.S. Fish and Wildlife Service Regions I-VII. They consist of selected sections of the larger, complete report. Each volume consists of a national summary, analysis of a given Region, and a selected State within that region.

2. Dynamic Aspects of the American Sport Hunting Population

3. An Analysis of the Overlap in Participation of Consumptive and Nonconsumptive Wildlife Users

4. Recreational Use of Public vs. Privately Owned Lands for Hunting

This series of reports was prepared to supplement the data reported in The 1980 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation. Topics for analysis were suggested by the International Association of Fish and Wildlife Agencies. The views and conclusions expressed here are the authors' and not necessarily those of the U.S. Fish and Wildlife Service.

ANALYSIS OF THE 1980 NATIONAL SURVEY OF FISHING, HUNTING AND WILDLIFE-ASSOCIATED RECREATION

REPORT NO. 1

IDENTIFYING AND DESCRIBING SEGMENTS OF CONSUMPTIVE USERS OF FISH AND WILDLIFE IN THE UNITED STATES

VOLUME IV
U.S. FISH AND WILDLIFE SERVICE
REGION IV

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Volumes I-VII consist of selected sections of the larger, complete report. Each consists of a national summary, analysis of a given Region, and a selected State within that region.

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INTRODUCTION

One of the most difficult tasks facing fish and wildlife managers in the United States is to maintain viable fish and wildlife populations while providing opportunities to meet the recreational demands of the public. Meeting this challenge requires an understanding of not only fish and wildlife resources (i.e., biological information) but also the preferences, attitudes and behaviors of the recreationist (i.e., social information).

Since the turn of the century the role of social information in decision making has increased in importance. As recreational preferences have changed, so have management approaches to meeting them. Early approaches emphasized that "success" or the amount of game or fish "bagged" was an accurate measure of hunting and fishing benefits. Implicit in this approach was the notion that obtaining food was the primary motive of hunters and fishermen. Under those circumstances, wildlife managers focused their efforts on increasing numbers of fish and game available for harvest believing that with increased numbers of fish and game, increases in benefits from recreation would result (Hendee 1974).

An extension of the "game bagged" notion was what can be called the "days afield" concept. Under this approach emphasis was still on providing fish and game, however, it was proposed that the way to increase benefits from hunting and fishing was to increase the number of days of recreation that pursuing fish and game provided (Crissey 1971). It assumed that benefits to sportsmen were constant, regardless of success or quality of the experience. This notion also suggested that the most value occurred where the greatest number of sportsmen were found. Hendee (1974) suggested that management practices based on this concept might result in crowded, perhaps unsafe hunting and fishing conditions. Such an approach could also lead to management for the types of recreation that a majority of recreationists would engage in, paying less attention to the preference of other user groups.

Recognizing the shortcomings of these approaches, writings in the 1960's and 1970's emphasized two fundamental ideas that have served as a foundation for subsequent views of recreational benefits and management of fish and wildlife related recreation.

The first suggests that there are a wide variety of satisfactions and benefits which are derived from hunting and fishing experiences, and that these diverse satisfactions and benefits are the real product of game management (e.g., Brown et. al 1973, Driver and Tocher 1970, Hendee 1974, Wagar 1966). For example, research showed that while success is definitely a part of the enjoyment or satisfaction derived from hunting and fishing, other aspects of the experience are also important, such as being outdoors, being with friends or family, and being engaged in the challenge of stalking game (e.g., Kennedy 1974, More 1973, Potter et al. 1973). In employing this concept, managers have been encouraged to manage fish and wildlife resources to provide opportunity for a variety of satisfactions (Hendee 1974).

The second key finding emphasized that there is no "typical" or "average" sportsman. Instead, there are many sportsmen who receive different satisfactions, require different resource settings for their experiences, and require different types of management approaches. Though this was documented in a study of campers (Shafer 1969), it has since been shown in studies of hunters and fishermen (e.g., Potter et al 1973, Hautaluoma and Brown 1978, Buchanan et al., 1982). It is now recognized that a major weakness of many studies of sportsmen has been the tendency to "homogenize" groups, thus neglecting information on characteristics of sportsmen subgroups (Bryan 1979, Applegate 1977).

For managers, this finding has emphasized the need to recognize the diverse and potentially conflicting preferences of the users they serve when attempting to manage and allocate the recreational resource in an equitable way. Several management schemes have been offered to assist managers in meeting this goal.

For example, Bryan (1977) has suggested that managers recognize the diversity of recreational fishermen segments according to their degree of resource and technique specialization. He offers descriptions of the type of management preferences held by each group which could aid managers in meeting demand by these groups. Another broader approach to characterizing users is the Recreation Opportunity Spectrum which is currently used by the USDA Forest Service and the USDI Bureau of Land Management to aid in assessing recreation supply and demand. As commonly applied, this approach identifies six broad classes of recreational opportunities ranging from primitive to modern-urban, each unique in the combination of recreation activities, settings, and probable experiences provided (Driver and Brown 1978; Clark and Stankey 1979; Buist and Hoots 1982). The applicability of the approach specifically to fish and wildlife related recreation has been described by Brown (1982).

Though the notion of managing for a distinct user group to produce opportunity for a "diversity of satisfactions" is a viable conceptual approach, application of this concept has occurred slowly. Barriers to implementation of this concept are varied. However, one which is prominant and is the focus of this study is the availability of social information concerning hunter and fishermen groups. The 1980 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation (NSFHWAR) presents that type of information. Information on user groups is presented in the following sections, and suggestions are made on how this information might be used.

This study presents results using an existing data source, the 1980 National Survey of Fishing, Hunting and Wildlife-Associated Recreation. Data in the study allowed for characterization of user groups by type of activity (e.g. big game hunters, small game hunters, freshwater fishermen, saltwater fishermen), species sought (e.g., deer hunters, elk hunters, bass fishermen, trout fishermen), and special equipment used (e.g., bow and arrow hunters, spear fishermen) (see Table 1 for a more complete list of user groups). Geographic breakdowns of data included national, regional and state level analysis.

The specific study objectives were to produce statistical summaries which:

1. Describe the hunting participation patterns, characteristics and expenditures of several segments of hunters. These segments are identified on the basis of game hunted and weapons used.
2. Describe the participation patterns, characteristics, and expenditures of several fishermen segments. Fishermen segments are identified on the basis of type of water fished, species pursued, and method of fishing.
3. Compare sportsman and nonsportsman publics on socioeconomic characteristics.[1]

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[1] Sportsmen have been defined as those who either hunt or fish. This analysis does not include comparisons between sportsmen groups who are also non-consumptive users. That is the subject of a separate U.S. Fish and Wildlife Service study.

Table 1. User segments and descriptive variables described nationally and by region[a].

User segments	Descriptive variables
Sportsmen Nonsportsmen	Age Marital status Sex Education Population of location growing up Employed (yes/no) Race Location of residence (rural/urban)
Big game hunters Small game hunters Migratory bird Other game hunters	Days hunting by region Number of hunting trips by region Age of introduction to hunting Years of hunting experience Reasons for hunting Days hunting on public land Expenditures for travel, access, and equipment
Deer hunters Elk hunters Antelope hunters Moose hunters Bear hunters Turkey hunters Mountain goat hunters Mountain sheep hunters Alaska big game hunters Hawaii big game hunters Rabbit hunters Quail hunters Grouse hunters Chuckar hunters Squirrel hunters Pheasant hunters Alaska small game hunters Hawaii small game hunters Goose hunters Duck hunters Coot, rail hunters Woodcock hunters Dove hunters Pigeon hunters Alaska migratory bird hunters Hawaii migratory bird hunters	Days hunting--total and by region Age of introduction to hunting Years of hunting experience Reasons for hunting

Table 1. Continued.

User segments	Descriptive variables
Crow hunters Woodchuck hunters Raccoon hunters Fox hunters Coyote hunters Alaska fur hunters	
Bow hunters Muzzle loader hunters Pistol hunters	Days hunting big game, small game, migratory birds and other game Age of introduction to hunting Years of hunting experience
Great Lakes fishermen Freshwater fishermen Saltwater fishermen	Days fishing by region Number of fishing trips--total and regional Age of introduction to fishing Years of fishing experience Fishing locations Expenditures for travel, equipment and access
Bass fishermen Pan fish fishermen Catfish fishermen Walleye fishermen Pike fishermen Trout fishermen Salmon fishermen Rockfish (striped bass) fishermen	Days fishing--total and by region Age of introduction to fishing Years of fishing experience Fishing locations
Spear fishermen Net fishermen Ice fishermen Bow fishermen Gigging fishermen	Days of participation Age of introduction to fishing Years of fishing experience

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[a] U.S. Fish and Wildlife Service Regions, see Figure 1.

METHODS

U.S. Fish and Wildlife Service Study

The 1980 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation, conducted by the U.S. Fish and Wildlife Service and U.S. Bureau of the Census, is the sixth in a continuing series of surveys conducted every five years since 1955 (U.S. Fish and Wildlife Service and U.S. Bureau of the Census 1982), and thus represents one of the oldest and most comprehensive continuous recreation surveys in the United States. Information gathered in the first four surveys focused on number of participants, days of hunting participation, and expenditures for hunting and fishing activities. The 1975 survey was unlike the previous surveys in that individual reports for each of the 50 states were produced for the first time, and mail questionnaires, versus in-person interviews, were used to gather data. The 1980 survey combined elements from the two previous surveys to become the most detailed investigation of American users of fish and wildlife resoruces ever conducted. About 34,000 individuals were asked to provide information regarding their hunting, fishing, and nonconsumptive wildlife-related activities in 1980 (U.S. Fish and Wildlife Service and U.S. Bureau of the Census 1982).

One unique aspect of the 1980 survey was that state and federal wildlife agencies, fish and wildlife researchers, and natural resource conservation organizations were contacted and provided input on how to increase the utility of the data being gathered. Through this process, special information "needs" were identified and specific analysis objectives or project areas were identified (U.S. Fish and Wildlife Service 1982).

The 1980 National Survey was implemented by the U.S. Bureau of the Census and involved two phases. In the first phase, completed in January 1981, a sample of 116,025 households nationwide was screened, mostly by telephone, to determine who in the household had hunted, fished, or participated in some nonconsumptive wildlife-associated activity. Information about household members 6 years old and older was obtained and potential participants for phase two were identified. A 95 percent response rate was achieved (U.S. Fish and Wildlife Service and U.S. Bureau of the Census 1982).

The second phase of the survey consisted of detailed in-person interviews conducted during spring 1981 with samples of hunters, fishermen, and nonconsumptive users identified in the screening phase. Participants in this phase were limited to those at least 16 years old. A total of 30,300 hunters and fishermen responded to a 50 page questionnaire and 6,000 nonconsumptive users answered a 22-page questionnaire. A sample of those who hunted or fished, and engaged in nonconsumptive activities were interviewed with both questionnaires. A response rate of approximately 90 percent for fishing and hunting and 95 percent for nonconsumptive users also was achieved for these groups respectively (U.S. Fish and Wildlife Service and U.S. Bureau of the Census 1982).

Analysis to Characterize User Segments

Prior to data analysis, computer tapes containing the 1980 survey data were obtained from the U.S. Fish and Wildlife Service. Initial error correction and "cleanup" of the data had been done by the U.S. Bureau of Census. A weight, based on an individual's likelihood of selection, had been assigned to each respondent, thus making the results representative of the entire population of people engaging in hunting, fishing, and other wildlife-related recreation activities (U.S. Fish and Wildlife Service and U.S. Bureau of the Census 1982).

Sportsmen user segments used in this study had been previously identified by the Fish and Wildlife Service (1982) and were based on (1) whether a person did or did not do any hunting or fishing, (2) locations fished, (3) species pursued, and (4) methods used in hunting or fishing. In total there were approximately 38 non-mutually exclusive hunter segments and 23 non-mutually exclusive fishermen groups in the proposed classification schemes (see Table 1). Summaries of segments were made at national, regional (U.S. Fish and Wildlife Service Regions, see Fig. 1), and selected state levels.

National and regional level analysis.

Variables used in describing hunter and fishermen user groups are listed in Table 1. Over 300 descriptive variables were identified to be included in this phase of the analysis, though not all variables were used in describing every segment identified. Those variables chosen for describing each group were chosen primarily on the basis of whether or not the descriptive variable would add information pertinent to understanding that group. A computer program produced the desired output on characteristics of user segments for seven U.S. Fish and Wildlife Regions and on a national level.

State level analysis.

The state level analysis differed from the national and regional levels in that only a few select states were chosen for analysis, and the state level analysis was more in-depth for the segments identified. The selected states were chosen to represent geographic and species diversity,

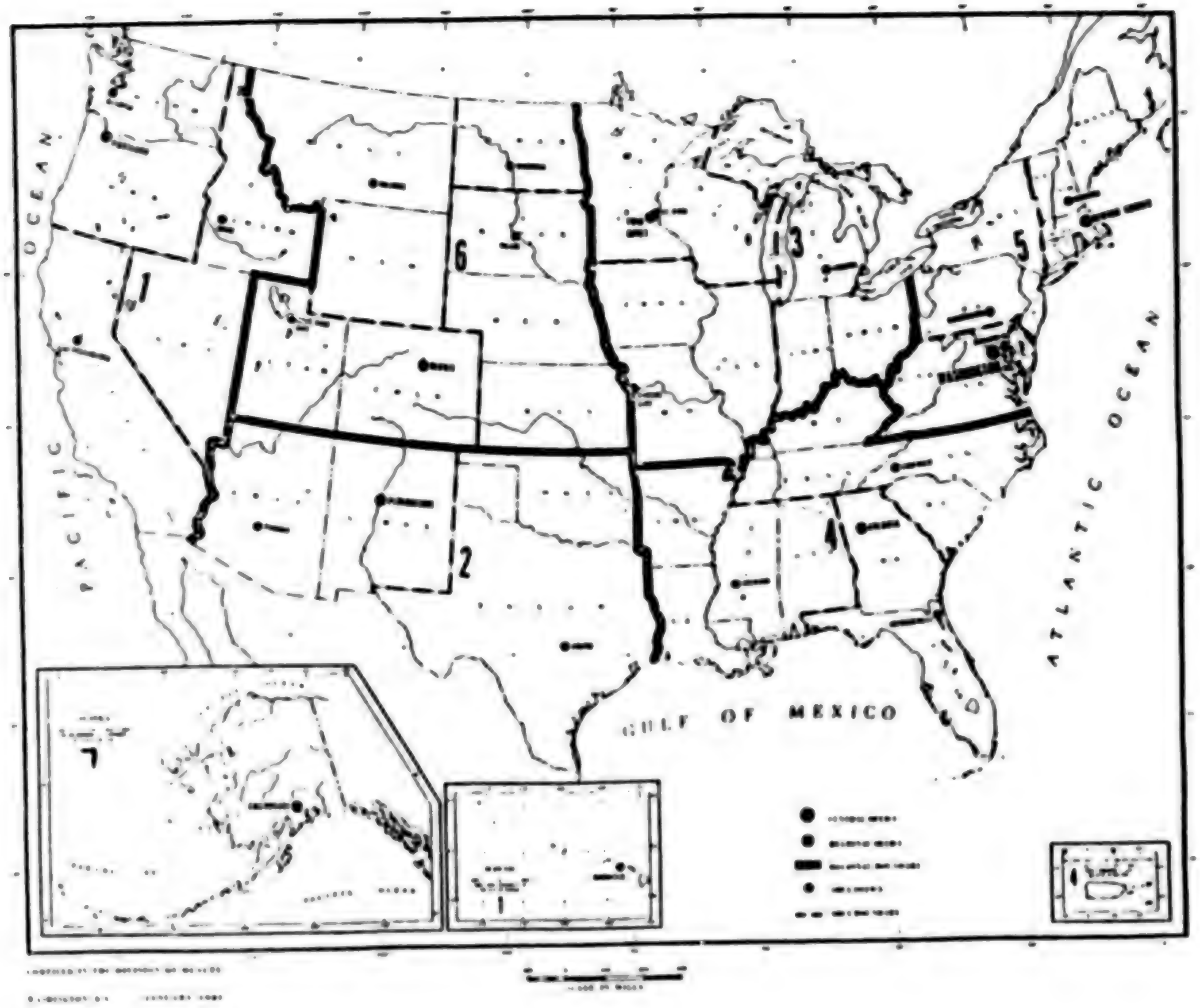

Figure 1. U.S. Fish and Wildlife Service Regions.

and included Alaska, California, Louisiana, Michigan, Montana, New York, and Oregon.

The user segment groups described for each state are listed in Table 2. User segments for a particular state were initially chosen for analysis on the basis of whether or not the segments were likely to exist within that state in sufficient numbers to allow reliable inferences from the data. Fish and wildlife managers from each of the seven states were contacted for input concerning user segments chosen for their specific state. In some cases additional segments were identified for analysis and a few segments were deleted. The descriptive variables to be used for each user segment are also listed in Table 2.

Sportsmen, nonsportsmen comparisons.

Data used in the sportsmen-nonsportsmen analysis came from information obtained during the screening phase of the 1980 National Survey. Household members 6 years old and older were assigned to sportsmen or nonsportsmen groups depending on whether or not they had done any hunting or fishing in 1980, and information was obtained on socio-demographic descriptive variables for the two groups at the national, regional, and selected state levels.

Delimitations of the study

For the purpose of this study, the following delimitations were set forth:

1. Summaries of hunter and fishermen segments were made on persons in the U.S. population who were 16 years old and older, and sportsmen/nonsportsmen comparisons were made on persons at least 6 years old and older.

Table 2. User segments and descriptive variables used for selected states[a].

User segments[b]	Descriptive variables
Sportsmen Nonsportsmen	Age Marital Status Sex Education Population growing up Employed (yes/no) Race Location of residence (rural/urban)
Big game hunters Small game hunters Migratory bird hunters Other game hunters	Age of introduction to hunting Years of hunting experience Membership in conservation and sportsmen organizations Reasons for hunting Days hunting on public land Hunting participation by state regions[c] Travel-related expenses Access-related expenses
Deer hunters Elk hunters Moose hunters[d] Mountain goat hunters[d] Dall sheep hunters[d] Caribou hunters[d] Grizzly bear hunters[d] Black bear hunters Duck hunters Goose hunters Pheasant hunters Grouse hunters	Days hunting--regionally[c] Number bagged per day--by region Age of introduction to hunting Years of hunting experience Reasons for hunting
Bow hunters Muzzle loader hunters	Days hunting big game, small game, migratory birds and other game Expenditures for special equipment Age of introduction to hunting Years of hunting experience Membership in conservation and sportsmen organizations Reasons for hunting

Table 2. Continued.

User segments[b]	Descriptive variables
Freshwater fishermen Saltwater fishermen Great Lakes fishermen	Age of introduction to fishing Years of fishing participation Membership in conservation and sportsmen organizations Fishing locations Fishing participation by state regions Travel-related expenses Access-related expenses
Trout fishermen Bass fishermen Walleye fishermen Pike fishermen Pan fish fishermen Salmon/steelhead fishermen Grayling fishermen[c] Great Lakes Trout fishermen Great Lakes Walleye fishermen Great Lakes Pike fishermen Great Lakes Pickerel fishermen Great Lakes Salmon/Steelhead fishermen Saltwater Salmon fishermen Saltwater Steelhead fishermen	Days fishing--regionally Number caught per day--by region Age of introduction to fishing Years of fishing experience
Ice fishermen	Days of participation Expenditures for special equipment Age of introduction to fishing Years of fishing experience Membership in conservation and sportsmen organizations
Large reservoir anglers Small reservoir anglers Natural lakes/ponds anglers River/stream anglers	Other locations fished

[a] State include: Alaska, California, Louisiana, Michigan, Montana, New York and Oregon.

[b] Some segments (such as Great Lakes anglers) were not described for every state.

[c] See individual state maps (Figures 2-8).

[d] Alaska hunters only.

2. U.S. Fish and Wildlife Service national regions were used in regional analyses.

3. Sportsmen segments were not placed in mutually exclusive groups, thus hunters and fishermen could appear and be counted in more than one user group.

4. Sportsmen segments described regionally and by state were defined and selected as residents who participated in hunting and/or fishing activities within their resident region or state.

5. Some of the data and statistics in this report are slightly different from similar data and statistics in reports published elsewhere that are based on the NSFHWAR. This is to be expected, because the survey's computer file often permits a particular calculation to be made in more than one way or from more than one place on the file. It would not be cost effective to replicate the data and statistics in other reports exactly, because a search for the other programmers' techniques would be costly. In addition, subtle differences may occur due to different definitions of terms, compared with other reports. The definitions which were used in this report were selected because they are most useful in this context. When appropriate, these definitional differences have been noted or discussed.

Limitations

Several limitations should be considered in these analyses.

1. Interview responses were based on a subject's recall of a whole year's hunting and/or fishing activities. This introduces the possibility of lower accuracy of responses due to subjects guessing when they were unable to recall their activities.

2. The accuracy of results for some strata, particularly for state and regional level analyses, may be limited due to small sample sizes.

3. The following socio-demographic variables used in comparing sportsmen and nonsportsmen may have low accuracy since information was not obtained through self-report methods; one person gave responses for all members of a household and all members were included in the sample. Variables include age, marital status, sex, education, population of the location of growing up, employment, race, and location of residence.

4. Expenses for equipment presented here are underestimates of total equipment expenditures because they did not include costs for equipment that could be used for both hunting and fishing, such as boats, travel trailers, etc., though this information is available from the NSFHWAR (1982).

RESULTS

The purpose of this study was to describe characteristics of consumptive fish and wildlife recreationists in the United States. This section reports study results which are summarized for hunters and anglers at the national, regional, and state levels of aggregation. Broad data summaries for hunters and fishermen at each level of aggregation are described in this section. These summaries are based on more detailed statistical information which is presented in table form in Appendices A through O.

National Summary

More than one-quarter of the United States population engages in some type of consumptive fish and wildlife recreation. Forty-two million people are anglers and 17.4 million people are hunters.

Comparing various demographic characteristics of sportsmen with people who neither hunt or fish, present both similarities and differences worth noting. The most noticeable difference between the two groups is the ratio of males to females, with 70 percent of sportsmen being male, 30 percent being female, while only 39 percent of nonsportsmen are men and 61 percent are women. A slightly higher percentage of sportsmen than nonsportsmen are married (66 percent vs. 56 percent for nonsportsmen), and nonsportsmen have an average age of 38 years old, while sportsmen average 32 years old. Nonsportsmen more often tended to grow up and currently reside in urban environments than do sportsmen (73 percent vs. 60 percent residing in urban areas). Ninety-two percent of the Nation's sportsmen are white, as are 83 percent of nonsportsmen, and 69 percent of sportsmen are employed[1] compared to almost 53 percent of nonsportsmen. These two groups have similar levels of education (close to 75 percent of each group have attended high school or college) and they come from households of similar size (sportsmen average 3.6 persons, nonsportsmen average 3.4 persons per household).

Sportsmen represent a diversity of interests and demands on our natural resources. Some of the hunter and fishermen segments involved are described below.

Hunters

Of those who hunted in the United States in 1980, almost 12 million hunted for big game, 12 million for small game, 5 million for migratory birds and 2.6 million for "other"[2] game animals. Though the actual number of big and small game hunters is similar, small game hunters took many more trips (145 million) than big game hunters (91 million). Trips taken by migratory bird hunters numbered close to 40 million, while trips taken to hunt "other" animals totalled approximately 37 million.

Though hunting is popular throughout the country, the most often hunted of the Fish and Wildlife Service Regions, for all game types, are the southern (Region 4), the northeastern (Region 5), and the midwestern--Great Lakes (Region 3) regions (see Figure 1 for a map). Big game were hunted most often in Region 4 (29.8 million trips) and Region 5 (26.1 million trips); small game hunters spent the most time in Regions 3 and 4

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[1] Employed includes persons having a job or owning a business. Does not include persons who are retired, going to school, or keeping house.

[2] Includes crows, woodchuck, raccoon, fox, coyote, wolverine, lynx, and many other game animals.

(40.8 million trips in each region); and migratory birds were hunted most often in Region 4 (11.3 million trips). Overall the eastern regions of the country were hunted more often than the less populace western regions and Region 7, which includes only the state of Alaska, was the least hunted region.

The average age of introduction to hunting for most hunter groups was approximately 11 to 13 years of age and the average number of years of hunting experience ranged between 18 and 20 years. Exceptions to these averages include hunters of certain big game species such as antelope and deer hunters who were introduced to hunting at older ages and hunters of Hawaiian game species who had fewer average years of experience than the sportsmen in other hunter segments.

From a choice of six reasons for hunting, those reasons most frequently cited were sport/recreation and obtaining meat. Of these two, sport/recreation was listed more frequently for most small game, migratory bird and "other" animal hunter groups. Several big game hunter groups, including antelope, elk, moose, mountain goat, Alaska and Hawiian big game hunters, cited obtaining meat more frequently than recreation/sport as their most important reason for hunting. Other prominant reasons mentioned by all hunter groups were to spend time with family and friends and to be close to nature. Hunting for a trophy and to deal with problem animals were the least frequently cited reasons for hunting.

Public land provides a substantial portion of hunting opportunities. Big game hunters spent 45.9 million days on public land in 1980, small game hunters spent 39.1 million days, migratory bird hunters spent 12.3 million days, and "other" animal hunters spent 7.0 million days afield on public land. While each hunter group relies heavily on a mix of public land types, it is noticable that big game hunters spent the largest percentage of their hunting days on federal and state owned land; small game and migratory bird hunters spent the greatest proportion of their days on state and local owned public land; and "other" game hunters spent the largest proportion of their time on locally owned public land.

Travel, equipment and access expenditures associated with hunting totals approximately 4.7 billion dollars annually. Of these expenditures, one-half were spent for big game hunting, one-third for small game hunting, one-eighth for migratory bird hunting, and the remainder for hunting "other" animals. For each group, travel was the greatest expense (at least 50 percent of total), followed by equipment (35-45 percent) and access (less than 5 percent). Big game hunting expenditures were much higher than expenditures made by hunters of other game types, particularly travel costs, with big game hunters spending $1.4 billion on travel, small game hunters spending $867 million, and migratory bird hunters spending $349 million on travel.

The largest segment of hunters when classifying hunters by game species hunted, is deer hunters which number 11.4 million sportsmen. The next largest hunter segment is rabbit hunters (7.6 million sportsmen) and squirrel hunters (6.3 million). Other sizeable hunter segments include pheasant hunters (4.2 million), quail hunters (3.7 million), grouse hunters (2.3 million), duck hunters (2.7 million), and dove hunters (3.0 million).

Special weapons hunters, those who hunt with bow and arrows, a muzzle loader, or a pistol, represent a small proportion of all hunters, yet are a sizeable group of sportsmen. There are approximately 2 million bow hunters, 1.3 million pistol hunters, and .8 million muzzle loader hunters. Bow hunters and muzzle loader hunters most often pursue big game (15 million and 3 million hunting days, respectively), while pistol hunters most frequently hunt small game (5 million hunting days).

Anglers

Of those Americans who fished in the United States in 1980, 3 million fished the Great Lakes, 35.3 million fished other freshwater, and 12.3 million fished saltwater. Trips taken to fish Great Lakes locations numbered close to 36 million, trips taken to other freshwater locations totalled almost 585 million, and there were more than 130 million trips taken to fish saltwater in 1980.

Though fishing was a popular form of recreation in all regions of the United States, the largest number of freshwater trips were taken in Region 4, the southern region (176 million trips) and Region 3, the midwestern-Great Lakes region (159 million trips). The greatest number of saltwater trips (45 million) were taken in Region 5, the northeastern region, followed by Region 4, the southern region and Region 1, the western region, with 42 million and 25 million saltwater fishing trips, respectively. As would be expected, regions in the eastern half of the nation are more heavily fished than regions in the West, with the fewest total fishing trips made to Region 7, the Alaskan region.

The average age of introduction to fishing for angler user segments nation-wide ranged between 9 and 10 years old and years of fishing experience ranged between 22 and 25 years.

Freshwater anglers, including those who fish the Great Lakes, fish a variety of water locations. More than 40 percent of all freshwater anglers, close to 16 million anglers, fished river and stream locations in 1980. A large number of anglers fished large man-made reservoirs (10+ acres) and natural lakes and ponds (14.5 million anglers at each location). Small man-made reservoirs (less than 10 acres) were fished by the fewest number of freshwater anglers (8 million fishermen). Saltwater anglers were evenly distributed among fishing deep sea, surf/shore, and sound/tidal locations, with between 4 and 6 million anglers fishing each of these three areas.

Travel, equipment, and access-related expenditures associated with fishing total approximately 9.4 billion dollars annually. Of these expenditures, 70 percent were made by freshwater anglers, 25 percent by those fishing saltwater, and 4 percent by Great Lakes fishermen. For each of these groups, travel costs, including food, lodging and transportation costs, were the greatest expense. Expenses for equipment made up between 20 and 30 percent of the total for freshwater and saltwater anglers, while access-related expenses such as guide and package fees and land use fees made up between 2 and 6 percent of the total for all three groups. Freshwater anglers spent more than $5 billion on travel expenses and another $1.5 billion on equipment, while saltwater anglers spent $1.5 billion in travel and $635 million on equipment.

When classified by the fish species they pursued, the largest segment of anglers was panfish fishermen totalling slightly more than 20.6 million anglers, followed by bass fishermen (19.7 million anglers). Other sizeable angler segments include catfish anglers (14 million fishermen), trout fishermen (11.7 million) and walleye, pike, salmon, and rockfish fishermen (each with 3-5 million anglers).

Emphasis on fishing participation for specific species varied by regions of the United States (see Figure 1 for a map of regions). Warmwater species such as bass and panfish were fished most frequently in the southeastern (Region 4) and midwestern-Great Lakes (Region 3) regions. Similarly, more than half of all days spent catfish fishing took place either in the southeastern or midwest-Great Lakes regions (72 and 69 million days, respectively). Trout were pursued most often in Region 5 (slightly less than 50 million days) and Region 1 (46 million days), as well as Region 3 and Region 6 (each with 20-21 million fishing days). As one might expect, rockfish and salmon were pursued most often in the two coastal regions and walleye and pike fishing occurred most often in Region 3, the midwestern-Great Lakes region (54 million and 43 million days, respectively).

Anglers who participate in specialty fishing such as spear fishing, fishing with a seine or net, ice fishing, using bow and arrow, or gigging for frogs, make up a small proportion of the total number anglers, yet are a sizeable group of sportsmen. Ice fishermen are the largest group with 1.9 million anglers, followed by seine or net fishermen with 1.2 million anglers. There are almost a million anglers who gig for frogs, more than 441,000 spear fishermen, and 293,000 anglers who fish with a bow and arrow. Specialty anglers had been introduced to the sport of fishing at an early age, with the average age of introduction to fishing for each group being less than 9 years old, the average age for spear and bow fishermen was 7.6 years old. Of the five specialty groups, ice fishermen had the most years of fishing experience ($\bar{x} = 25$ years) while anglers in the other specialty groups had been fishing an average of 21 or fewer years.

Region 4

Slightly_ more than 1 in 3 people living in Region 4, which includes Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, and Tennesee, participate in some type of consumptive fish or wildlife recreation.

Comparing various socio-demographic characteristics of these Region 4 sportsmen with characteristics of people from the Region who neither hunt or fish (nonsportsmen) reveals similarities and differences worth noting. The large majority of both sportsmen and nonsportsmen are white (88 and 74 percent, respectively), though only 11 percent of the Region's sportsmen are black compared to 25 percent of the nonsportsmen. Both groups have an average household size of 3.5 persons and the groups have similar levels of education (close to 25 percent of each group have attended college). Sportsmen grew up and currently reside in more rural environments than do nonsportsmen (53 percent of sportsmen compared to 42 percent of nonsportsmen live in rural areas). Sportsmen have an average age of 33 years old, nonsportsmen average 38 years old. A larger percentage of sportsmen have jobs or own businesses (67 percent of sportsmen, 49 percent of nonsportsmen). The most noticeable difference between the two groups is the ratio of males and females. Sixty-nine percent of Region 4 sportsmen are male and 31 percent female, while only 38 percent of the Region's nonsportsmen are men and 62 percent are women.

Of the 10.8 million Region 4 sportsmen, 4.1 million (37 percent) are hunters and 10.9 (92 percent) are fishermen. Segments of these hunter and fishermen groups are discussed below.

Hunters

Of those Region 4 residents who hunted in 1980, the largest group was small game hunters (3.0 million), followed by big game hunters (2.6 million), migratory bird hunters (1.5 million) and "other" animal (e.g. crow, woodchuck, raccoon) hunters (.5 million). As would be expected small game hunters had the largest total number of hunting trips (40.5 million), big game hunters took almost 30,000 hunting trips, migratory bird hunters took 11,000 trips, and hunters of of "other" animals took 9,000 trips.

When travelling out of the region to hunt, Region 4 hunters most frequently visit Regions 2 (the Southwest), 3 (the Midwest--Great Lakes), 5 (the Northeast), and 6 (the Northern Rockies and the Plains). Though Region 4 hunters travel to hunt a variety of species, they travel to Region 3 predominantly for small game and to Region 5 for big game. Region 4 hunters hunt in Region 2 predominantly for deer, quail and dove; in Region 3 for rabbit, grouse, pheasant, chukar and deer; in Region 5 for squirrel, deer, turkey, rabbit, woodchuck, and pheasant; and in Region 6 for pheasant, deer, and elk.

Sportsmen coming to Region 4 to engage in hunting originate predominantly from Regions 2, 3, and 5. The species these hunters pursue most frequently in Region 4 are deer, rabbit, squirrel, and quail.[1]

The average age of introduction to hunting for most hunter groups ranged between 10 and 12 years old. Years of hunting experience of big game, small game, migratory bird, and "other" animal hunter groups were similar (average years ranging from 18.6 to 20.2 years), however, years of experience varied widely for hunters of certain game species. For example, chukar hunters averaged 44.9 years of hunting experience, elk and pheasant hunters each averaged 30 years of hunting experience.

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[1] This information was obtained by examining the out-of-region participation of hunters from all regions of the country.

When classified by their most important reason for hunting, the largest segment of hunters from Region 4 are those hunting for sport and recreation. Other sizeable hunter segments are those indicating that obtaining meat was their most important reason, those who said that being with nature was their most important reason, and those who specified being with family and friends as their most important reason. Those hunting for the primary reason of eliminating problem animals and obtaining a trophy represent smaller segments of hunters. This general pattern of results was found for big game, small game, migratory bird hunters, and "other" animal hunters as well as for most species specific user groups.

Hunters from Region 4 rely heavily on public land for recreational hunting. Big game hunters depend on public land more than any other group. In 1980, they spent 12.2 million days on public land, while small game hunters spent 7.1 million days, migratory bird hunters spent 2.2 million days, and "other" animal hunters spent 2 million days. While each of these groups utilizes a mix of publically owned land, big game hunters most often used federally owned land, while small game hunters, migratory bird hunters and "other" animal hunters most frequently use locally owned public land.

Travel, equipment, and access expenditures made by hunters from Region 4 totalled close to 1.2 billion dollars. Hunters pursuing big game incurred the largest expenditures ($633.5 million) when compared with expenditures made by small game hunters ($337.9 million), migratory bird hunters ($140.6 million), and "other" animal hunters ($69.7 million). Travel costs, including food, lodging, and transportation, made up the largest proportion of the total expenses for all four hunter groups, making up more than 50 percent of each group's total.

The largest segment of resident hunters, when classified by specific species hunted, are deer hunters, who number 2.6 million, though there are almost that same number of squirrel hunters (2.3 million). Other sizeable hunter segments include rabbit hunters (1.8 million), dove hunters (1.2 million) and quail hunters (1.1 million).

Sportsmen who hunt with special weapons such as pistols, bow and arrows, or muzzle loaders represent a small portion of the total number of hunters from Region 4. Bow hunters are the largest group, involving close to 427,000 hunters, along with hunters who use muzzle loaders and those who use pistols (each group with approximately 270,000-280,000 hunters). Bow hunters and muzzle loader hunters spend most of their days afield pursuing big game (3.1 and 1.4 million days, respectively), while pistol hunters most frequently pursue small game (1.5 million days).

Anglers

Region 4 is the most often fished of all regions in the United States. There were more than 9.5 million freshwater and 4.3 million saltwater anglers in Region 4 in 1980 (see Tables 13 and 14 in Appendix A for total fishing participation in Region 4) The largest portion of this use was made by Region 4 residents. There were more than 8 million resident freshwater anglers who took more than 170 million fishing trips, along with 3.2 million saltwater anglers who took 39 million fishing trips within Region 4.

Residents of Region 4 who freshwater fished outside the region did so mainly in Region 5 (Northeast) (851,000 fishing trips) and in the other bordering Regions 2 (Southwest) and 3 (Midwest--Great Lakes) (546,000 and 722,000 trips, respectively). Anglers from Region 4 who Great Lakes fished took more than 550,000 trips to Region 3 and saltwater angers from Region 4 who fished outside the Region fished primarily in Region 5 (300,000 trips).

When anglers from Region 4 are grouped according to the specific fish species they pursue, the largest groups are panfish fishermen (5.6 million anglers), bass fishermen (5.1 million anglers), and catfish fishermen (3.8 million anglers). Bass and panfish anglers each spent more than 106 million days fishing in 1980, and catfish anglers spent 70.6 million days fishing. Other anglers groups include 760,000 rockfish anglers and 710,000 trout anglers.

Anglers living in Region 4 were introduced to fishing at an early age, an average of between 9 and 10 years old. Consequently, they have had many years of fishing experience, on the average between 24 and 26 years.

Freshwater anglers from Region 4, including those who fish the Great Lakes, fish a variety of water locations. Rivers and streams were the most popular location, fished by more than 8.3 million anglers. Large man-made reservoirs (10+ acres) were fished by 3.4 million anglers, while small man-made reservoirs (less than 10 acres) and natural lakes/ponds were each visited by 2.4 million anglers. Among saltwater locations, surf/shore areas were fished by the greatest number of fishermen (2 million anglers), followed by sounds and tidal areas and deep sea areas (fished by 1.4 million and 1.1 million anglers, respectively).

Travel, equipment, and access-related expenditures made by anglers from Region 4 anglers totalled more than 2 billion dollars. Seventy percent of those expenditures (1.5 billion dollars) were made by freshwater anglers. Saltwater anglers spent 648 million dollars, and the relatively few anglers from the Region who fished the Great Lakes spent 11 million dollars. Travel expenses, including food, lodging, and transportation costs, were the largest expenses, at least 70 percent of each group's expenses. Freshwater anglers spent a billion dollars for travel in 1980, and saltwater and Great Lakes anglers spent 450 million and 11 million dollars, respectively. Equipment expenses made up 25 percent of the total spent by both freshwater and saltwater anglers, while access-related costs such as guide and package fees made up less than 5 percent of these anglers' expenses.

Region 4 anglers who participate in specialty fishing such as ice fishing, spear fishing, seine or net fishing, fishing with a bow and arrows, or gigging for frogs represent a comparatively small proportion of total anglers, yet are a sizeable group of sportsmen. Anglers who gig for frogs are the largest group, with more than 390,000 anglers, along with seine or net fishermen who numbered 236,000. Smaller groups included anglers who fished with bow and arrows (60,000 anglers), spears (57,000 anglers), and through the ice (20,000 anglers). These specialty fishing anglers, like other freshwater anglers, were introduced to the sport of fishing at an early age. The average age of introduction for these groups ranged between 6 and 8 years old. Years of fishing experience for these specialty anglers ranged between 19 and 22 years.

Louisiana

A third of the people 16 years old and older living in Louisiana either hunt, fish, or do both. Comparing various socio-demographic characteristics of Louisiana sportsmen with those of people from the State who neither hunt or fish reveals similarities and differences worth noting. Members of both groups tended to grow up in rural environments (56 percent of sportsmen and 54 percent of nonsportsmen grew up in either small town or rural areas), though 45 percent of Louisiana's sportsmen now reside in rural areas compared with 33 percent of nonsportsmen. The two groups have somewhat similar levels of education (26 percent of sportsmen and 21 percent of nonsportsmen have attended college), and come from similar size households ($\bar{X} = 3.8$ and $\bar{X} = 3.9$ persons, respectively). Louisiana sportsmen have an average age of 32 years old, nonsportsmen average 36 years old. A larger percentage of sportsmen have jobs or own businesses (67 percent vs. 47 percent of nonsportsmen), are more likely to be white (84 percent of sportsmen vs. 64 percent of nonsportsmen), and more of them are married (67 percent vs. 52 percent of nonsportsmen). The most noticeable difference between the two groups is the ratio of males and females. Seventy-one percent of Louisiana's sportsmen are male and 29 percent are female, while only 36 percent of nonsportsmen are male and 64 percent are female.

The sections that follow describe the characteristics and degree of participation of user segments that make up the group of 1 million resident sportsmen.

Hunters

Louisiana hunters pursue a variety of game in their state, small game being hunted most often. Close to 385,000 resident hunters hunted small game in Louisiana in 1980, almost 260,000 hunters pursued big game, 195,000 hunters hunted migratory birds, and 50,000 hunted "other" game such as woodchuck, raccoon, and fox.

More than 80 percent of all Louisiana hunters were introduced to hunting by age 15, and between 40 and 50 percent of all hunter groups have been hunting at least 18 years.

Louisiana hunters are not joiners of national conservation and wildlife-related organizations, with less than 25 percent of any hunter group having membership in any such organization.

Reasons for hunting given by Louisiana hunters center around hunting for sport and recreation and obtaining meat. Sport and recreation was the most important reason for hunting given by at least 50 percent of big game, small game, and migratory bird hunters. Hunting to obtain meat was less important for migratory bird hunters than other groups. Interacting with family and friends and being close to nature were other important reasons for hunting that were mentioned by hunters.

Louisiana hunters who hunt on public lands do so mainly on state and locally owned public lands. Big game and migratory bird hunters hunted more on state wildlife areas or refuges (318,000 and 198,000 days, respectively) than on locally-owned lands, while small game hunters spent more days on locally-owned land (385,000 days) than state-owned public lands.

The distribution of hunting days over the state wildlife management regions (see Figure 4) varied by type of game hunted. The large northwestern (221) region of Louisiana was the most heavily hunted region of

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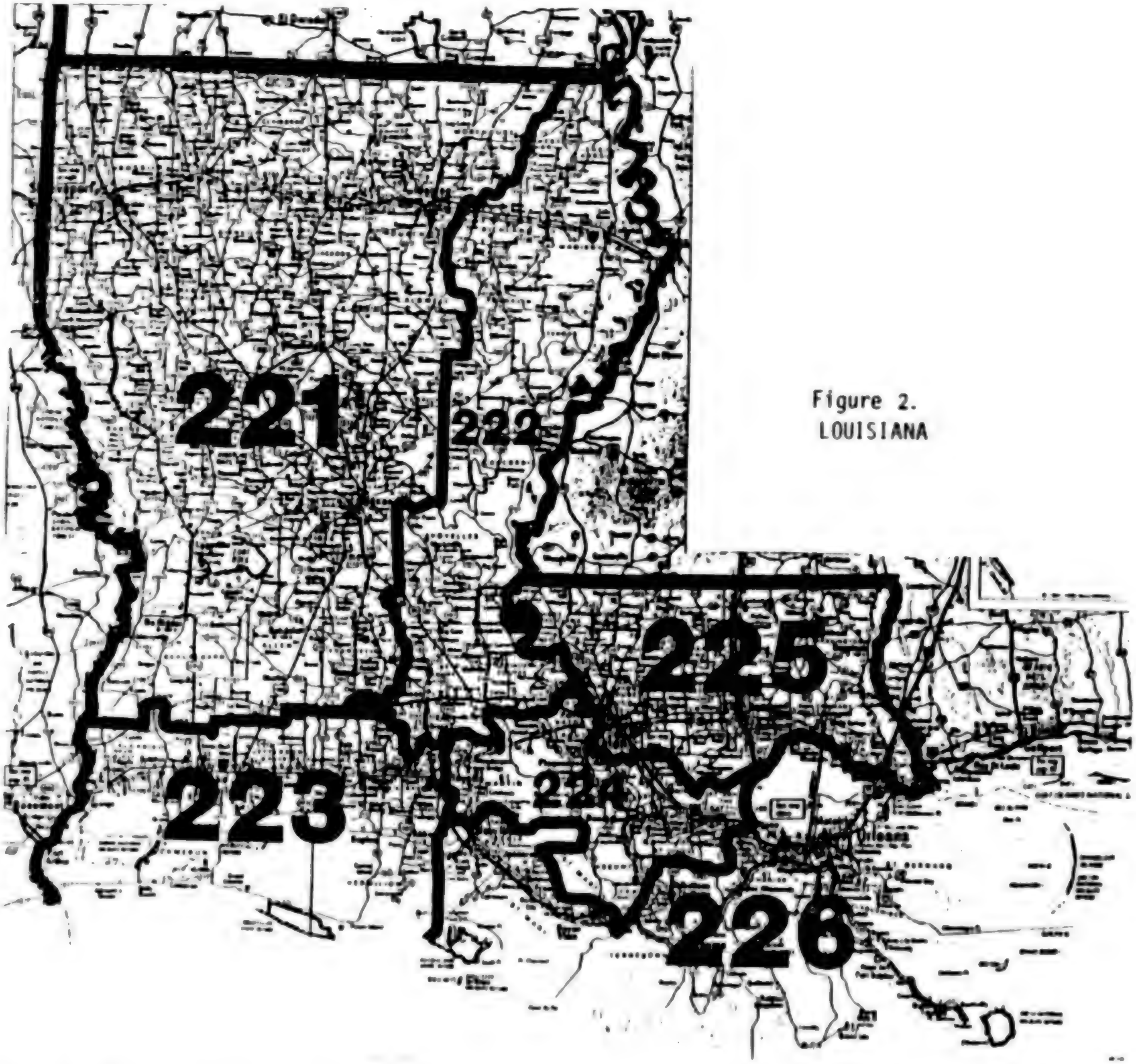

Figure 2.
LOUISIANA

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the state for all game types. Resident hunters spent close to 2 million days pursuing big game, 2.6 million days pursuing small game and almost 900,000 days hunting "other" game in that region. The northeastern (222) and northwestern (221) regions were hunted most often by migratory bird hunters, who spent almost 480,000 hunting days in each region. The least heavily hunted region for all game types except migratory birds was the southwestern (223) region of Louisiana.

Louisiana resident hunters spent 93 million dollars on travel and access-related expenses in 1980, the majority of it in-state. Big game hunters spent almost $32 million in-state, averaging $107 per capita, on food, lodging, and transportation; small game hunters spent $26 million in-state on travel, hunters of migratory birds spent almost $14 million, and "other" game hunters spent almost $4 million. Access-related expenses such as guide fees and land access or use fees were not nearly so large as travel expenses, totalling almost $2 million. Resident big game hunters spent $320,000 in-state, migratory bird hunters spent $150,000 in-state, small game hunters spent about $64,000, and "other" game hunters spent $45,000 in-state.

In looking more closely at hunters of several of the game species pursued, we find that the two largest resident hunter groups are deer hunters (257,000 hunters), and rabbit hunters (250,000 hunters). Other groups include 157,000 duck hunters, 28,000 goose hunters, 43,000 quail hunters, and 15,000 turkey hunters. Deer and rabbit were hunted most often in Louisiana's the northwest region (221) (1.9 and 1.1 million hunting days for deer and rabbit, respectively) and northeast region (222) (673,000 days deer hunting and 609,000 days rabbit hunting). Quail were hunted most often in the lower delta (226) and the northwest (221) regions (163,000 and 153,000 days, respectively). Goose hunters hunted most often in the southwest (223) region of Louisiana, and ducks were hunted most frequently in the northwestern (221) and northeastern (222) regions of the state.

More than half of the hunters of the species looked at indicated that their most important reason for hunting (in general, not for a particular species or type of game), was sport and recreation. This was a particularly strong motivator for rabbit, quail, and duck hunters, while obtaining meat was important to deer and rabbit hunters, and being close to nature was an important reason for hunting given by goose, quail, and duck hunters.

Louisiana has a relatively small group of special weapons hunters. There are almost 29,000 bow and arrow hunters and close to 11,000 hunters who use muzzle loaders. Both groups spend the majority of their hunting days pursuing big game, and 80 percent of their hunting activity takes place in-state. Reasons for hunting given by these special weapons hunters center around sport and recreation, though obtaining meat and being close to nature were also mentioned as important reasons.

Anglers

Louisiana had more than a million sport fishing participants in 1980. Included in that total were 752,000 resident freshwater anglers who fished in Louisiana, fishing predominantly for bass and panfish.

Louisiana freshwater anglers were introduced to fishing at an early age, with half of the state's freshwater fishermen having begun fishing by the time they were eight years old, and close to three-quarters of them by 11 years old. Most anglers have had many years of fishing experience, with 59 percent having participated at least 18 years. Louisiana anglers are not joiners of national conservation or wildlife-related organizations--90 percent of the state's freshwater anglers belonged to no such organizations.

Resident freshwater anglers in Louisiana fish a variety of locations such as large and small man-made reservoirs and natural lakes and rivers, though they fish most often on rivers and streams and natural lakes and ponds (more than 300,000 anglers fished each location).

The amount of fishing done by Louisiana resident freshwater anglers varied over the wildlife management regions of the state (see Figure 4). The large northwestern region (221) had the most days of fishing, 7.9 million days, followed by the northeastern (222), southcentral (224), and southeast (225) regions, each with close to 2 million days of participation in 1980. The least visited region for resident freshwater fishing was the southwestern region (223) of Louisiana.

In 1980 Louisiana resident freshwater anglers spent more than 93 million dollars, close to 90 percent of it in-state, travelling and gaining access to fishing locations. Freshwater anglers spent $80 million in-state, more than $100 per capita, for travel expenses such as food, transportation, and lodging, and another $4 million in-state for boat launching, package fees, equipment rental, and other access-related fees.

In looking more closely at resident anglers of selected fish species, we find that panfish and bass anglers dominate fishing in all wildlife management regions of the state. There were more than 535,000 resident panfish anglers and almost 410,000 resident bass fishermen who fished within the State. Both panfish and bass were fished most often in the northwestern region (221) (5 million and 4 million fishing days, respectively). The northeastern (222), south central (224), and southeastern (225) regions each had more than a million days of panfish fishing.

APPLICATIONS OF INFORMATION ABOUT USER GROUPS

The purpose of this section of the report is to describe ways which user segment data can be used by fish and wildlife managers. It is not the intent to describe all data implications, instead we present a framework for utilizing data from the 1980 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation (NSFHWAR).

Recommendations made here about the use of NSFHWAR data are offered within the context of a model of recreation planning and management founded in "rational planning theory" (Banfield, 1959). The rational perspective guides planning conducted by most federal resource management agencies (Culhane and Friesema, 1979). General steps involved in this approach include developing goals, identifying feasible means to attain goals, determining the effects of implementing alternative means, and choosing the means which best lead to goal attainment.

Application of this approach in recreation management has been offered by Brown (1977) who identified three key decision points in the planning process; selection of management objectives which lead to goal attainment, selection of management actions which allow for fulfillment of objectives, and selection of modification in planned programs. Each decision point is ultimately guided by the desired goals of the planning effort.

Within the realm of recreation management, Driver and Brown (1978) have noted that the most important goals of recreation managers are 1) to provide recreation opportunities which are demanded and appropriate for the area being managed, 2) to prevent unacceptable damage to the resources, and 3) to protect users from serious harm. They also note that to develop objectives in meeting these goals managers need both social and biological information.

In the area of fish and wildlife management, biological information has traditionally served as the basis for decision making. However, to meet goals of providing desired opportunities, and to make more equitable, easily justifiable decisions, managers need information about users, i.e. social information. Managers need to understand their clients and the clients' preferences so they can provide the "products" that people want (Witter, 1980).

General conclusions found within the recreation literature suggest that 1) the product of a recreation engagement is the satisfactions or psychological benefits received by a person and 2) there is no typical recreationist; desired types of recreation vary in terms of the characteristics of people who engage in them, the satisfactions they receive, the activities they engage in, and the resource setting, social and managerial, they prefer. Consequently, a current emphasis within recreation research has been to provide information which would reveal the preferences of distinct user groups and the satisfactions they receive from their preferred experiences and to emphasize the uses of these data in the management and planning context.

Data from the NSFHWAR offers managers information which they can use in meeting goals of recreation management related to providing demanded opportunities. The remainder of this section illustrates some of these applications.

It should be recognized that it is unlikely that social survey data, such as that obtained in the NSFHWAR will yield "gee whiz" results. As noted by Witter (1980), reasonable expectations of such data are a) to confirm the view held by a commissioner, administrator or biologist, b) to better acquaint the professional with a situation, or c) to be filed away until a problem arises to which results apply more directly. Data will yield clues which will improve management. We advocate that the information will contribute to evaluating effectiveness, managerial feasibility, political acceptability, and equitability of policies being considered.

Developing Management Objectives

Critical activities done by planners and managers are formulating and selecting objectives to guide management. These objectives are measurable and attainable statements of goals and represent the targets which management actions are designed to achieve. For example, an agency may adopt a goal of increasing the user satisfaction gained from fishing. Objectives should answer specifically what that means. Questions to be addressed might include "What is the magnitude of increase that is important and realistic?" "Over what time do we want to consider an increase?" "What do we mean by satisfaction?", specifically, "What dimensions of satisfaction are important for management?". Answers to these questions would be found in objectives. For example one might establish objectives of "increasing the average catch of fish per person by one fish during the next five years." Assumptions in formulating the objective may be that 1) catching fish is related to a prominent satisfaction of the users being managed, 2) catching fish can be affected by management, and 3) a one fish increase in catch is a realistic target over a five year period.

Other objectives which clarify the goal are possible and a major activity of the planner is to determine which of the possible objectives clarifying the goal are relevant, given the biological, user, and management situations. Usually decisions about appropriate objectives involve considering information about user preferences, resource capabilities, institutional factors, and the existing situation (Brown 1977).

The NSHFWAR does not have all the user information the planner needs, as no survey with broad purposes would, but it does have some information that would be useful in formulating management objectives in several situations. A few such situations are described below.

Developing recreation experience objectives.

A goal of recreation management is to provide opportunities for satisfying recreation experiences. Prerequisite to meeting this goal is information about the preferred recreation experiences of user groups. The NSFHWAR offers some useful experiential information.

To illustrate, assume Montana adopts a goal of increasing the satisfaction obtained from big game hunting. Data from the survey relevant to this goal shows that for Montana big game hunters, obtaining meat is a dominant reason for hunting, with sport and recreation being of somewhat lesser importance. This suggests that objectives focused on increasing harvest of big game will be consistant with the goal of increasing user satisfaction. In contrast, if one were considering increasing satisfaction from big game hunting in California or New York, according to findings of the NSFHWAR, greater emphasis would need to be placed on developing opportunities to enhance sport and recreation (e.g. increasing access).

Another more specific example is provided when examining deer hunting in Oregon. Overall satisfaction ratings for deer hunters vary greatly according to the region in which hunting occurs. Hunter groups using the Willamette Valley reported lower satisfaction than hunters visiting other regions. Management efforts might focus on improving hunting in this region. In seeking possible improvements, managers might examine such things as the difficulty hunters encounter while hunting in the dense vegetation of the Oregon Coast Range, crowding, and the problems hunters have in obtaining access to the private lands of the Valley. Management may then provide ways to increase hunter opportunities for access and success and improving their hunting skills.

Data are also available to aid managers in meeting a goal of providing a diversity of recreational opportunities. For example, when Oregon big game hunters are segmented according to their most important reason for hunting, the largest group is comprised of individuals who cited "obtaining meat". Other large groups included those citing "being with family and friends", "sport", and "being close to nature". A relatively small segment cited "obtaining a trophy" as their most important reason for hunting; that group represented about 1 percent of the hunter population. Though a small group, managers should recognize and consider trophy hunters' interests. Objectives might be developed which address how the Department of Fish and Wildlife will meet the preferences of that specific group (e.g. special hunts, trophy areas).

Information such as this gives managers an idea of the hunter groups they serve and the satisfactions they receive. The objectives which are developed using these data will contribute to providing an array of opportunites desired by the public.

Developing economic development objectives

Wildlife related recreation is an important component of some local economies and justification for enhancing fishing and hunting opportunities may, in part, be based on expected economic stimulation. On the other hand, it is sometimes useful to be able to predict the economic impact of loosing opportunities for hunting and fishing. Data from the NSFHWAR offer a variety of information types regarding the expenditures of hunters which would be quite useful in constructing economic development objectives.

For example, while all categories of Oregon hunters spend large amounts of money on travel-related goods and services, big game hunters spent more on outfitters and equipment rental than did other hunters, while small game hunters spent more on land access fees than did other hunters. Thus, big game hunters especially support the outfitter segment of the economy while small game hunters provide income directly to land owners as they purchase access rights. Objectives to increase the participation of each group will lead to different goals. Expenditures for fishing show similar kinds of user group differences. For example, Oregon saltwater anglers spent proportionately more for package trip fees than did freshwater anglers.

Findings such as these should signal the need to consider different economic stimulation objectives for different kinds of hunting and fishing and to test the effects of both objectives and management actions on local and regional economies. One would want to know whether or not significant positive or negative effects would occur in important economic sectors.

Baseline comparisons as a means for constructing objectives

Construction of realistic and attainable objectives is made possible when consideration is given to current conditions. To aid in this process, the NSFHWAR offers a variety of information describing the existing situation regarding hunting and fishing at state, regional and national levels. This information can be a baseline against which proposed goals and objectives are compared.

A portion of the survey data describes the within-state geographical distribution of hunting and fishing by different groups. If one were to set a goal of increasing the amount of hunting in a particular region of a state, this survey information could be the base information for defining an increase for the user group of interest. Also, it might be used to determine if other regions might lose sportsmen to the region being emphasized. For example, there are currently 83,000 days of big game hunting in the Wrangell Mountain region of Alaska. If we were to consider an increase in big game hunting in this region over the next five years, we might realistically consider an increase of 1,000 days, 10,000 days or 25,000 days but probably not an increase of 100,000 days. One thousand days represents 1 percent, 10,000 days represents 12 percent, and 25,000 days represents 30 percent of big game hunting whereas 100,000 days would mean more than doubling the current hunter days. The baseline data aid [illegible] deciding what is realistic and in selecting the level of increase that would represent a measurable standard whose attainment could be evaluated.

Developing cooperative goals and objectives

Though the management of fish and wildlife is primarily a responsibility of state agencies, cooperation is an essential part of a successful management approach. This would include cooperation with landowners (both private and public) and also with fish and wildlife agencies in neighboring states. Data from the NSFHWAR may provide some descriptive data which are useful in establishing cooperative objectives.

At a regional level, each state's hunting and fishing pattern can be compared to the amounts and patterns for adjacent states and the total region to aid in identifying commonalities and differences among states and subregions within a larger region. For example, in the southern region of the U.S. about 70 percent of the anglers fish freshwater while 30 percent fish saltwater, with over 80 percent of the fishing trips being taken to freshwater sites. Freshwater fishermen fish in large reservoirs, rivers and streams, small reservoirs, and natural lakes/ponds. Saltwater anglers fish surf/shore areas, sounds and tidal areas, and deep sea areas. Louisiana, a state in the southern region, has similar proportions of freshwater and saltwater fisherman. Louisiana however, has a larger proportion of freshwater fishing occurring in natural lakes and ponds. Regional programs might take into account such differences.

Cooperation with land management agencies might be particularly important in attempts at providing nonconflicting types of recreation at a given location. An illustration of how NSFHWAR data might aid in achieving this is provided when examining the type of land hunted by various user groups in Oregon. Big game hunters rely most heavily on federally owned lands while migratory bird hunters rely most heavily on locally owned public lands. This suggests that when managers are developing objectives for meeting the needs of big game hunters, it would be useful to work cooperatively with the major land management agencies, the U.S. Forest Service and Bureau of Land Management.

Resource planning in the 70's and 80's emphasizes integrated resources planning. Fish and wildlife agencies' cooperation with land managers to provide recreation will alleviate potential conflicts which arise due to conflicting objectives. Data from the NSFHWAR may give clues about areas of needed cooperation among agencies.

Developing Management Actions

Once management objectives have been agreed upon, one needs to decide the best means to achieve them. There is usually a wide range of management actions available for consideration. Some deal with manipulating biological and physical environments, some deal with regulatory actions by management, and others emphasize influencing user behavior.

Making decisions about appropriate management actions is usually aided by having information on the character of the area (facilities, physiographic elements, wildlife, etc.), the perceptions of users regarding alternative management actions and their effect on behavior, the institutional directives affecting the agency and situation, and the existing situation (Brown 1977). Information from users is particularly relevant to knowing about user perceptions and the existing situation, and information obtained by the NSFHWAR is almost exclusively of the latter type. It is particularly good for describing the present users and what they do. Below are a few ways this information from the national survey might be used in identifying and selecting management actions.

Development of regulations

Development and enforcement of regulations are undoubtedly the most effective and frequently used management tools for achieving many wildlife recreation objectives. Over the past decade there has been a trend toward user specific regulations (e.g. different regulations based on methods of taking wildlife) and resource specific regulations (e.g. different regulations for different areas or rivers). Information from the NSFHWAR may aid managers by giving them clues about the types of user groups which will be affected and the types of impacts which will occur for a given regulation.

One area where the data might be of assistance is in determining season length. By comparing harvest figures with effort information, it is possible to obtain clues about what the effect of lengthening seasons may be for any specific user group. For example, the data show that bow and arrow hunters in New York spent more total days hunting for big game (931,600 days) than did muzzle loaders hunters (119,100 days). Using these data with harvest figures would show that muzzle loader hunters have a much lower harvest per effort ratio than do bow and arrow hunters. A longer season may be neccessary to reach desired or equitable harvest levels for muzzle loader hunters.

The data might also aid managers in enforcement of regulations. One important decision is what manpower allocations should be made to achieve a distribution of game officers, proportional to existing recreation use for different user groups. Data are available within the survey which yield amount of use by region for user groups identified by the species they pursued. For example, New York trout fishermen spent the largest proportion of days fishing within three of the state's seven regions (368, 364, 365). Each of these regions had approximately 20 percent of the total days spent trout angling. This proportion may prove useful in scheduling patrolling efforts in the state during trout season.

In establishing regulations, particularly special regulations, managers should attempt an analysis of the types of user groups who will be affected and how they will be affected. These few illustrations suggest that NSFHWAR data may aid in that type of analysis.

Resource enhancement and access improvement

Managers are frequently faced with the problem of how to increase the supply of hunting and fishing opportunities for the public. Two frequent approaches to this include enhancing the resource in order to provide fish and game, and providing public access to these resources. Data from the NSFHWAR may aid managers in determining where to increase efforts to maximize increased participation for specific user groups. Managers might compare current supply of opportunities within a region (e.g. acres of available land, accessible stream miles), with current uses to make some estimation of where high resource utilization is occurring (relative to resource capacity). This may give some information to aid in setting priorities for land and access acquisition or resource development plans.

Allocation and pricing of licenses

One of the most volatile issues in wildlife management stems from the pricing and allocation of licenses. Current issues faced by managers include questions such as "should there be a license required for saltwater fishing groups?" "what price should be charged for a license?" and "what might the effect be of increasing license sales for certain user groups?". Data from the NSFHWAR will not provide answers to these questions but may provide information to aid in their analysis. For example, Michigan big game hunters were found to have spent, on the average, $119 per capita for in-state travel and access expenses. Such information can be used with average participation figures to arrive at an average of between $13 and $24 per hunting trip. This figure can be used in projecting the impact to local economies of increases or decreases in numbers of big game hunters and the number of trips they take.

In another situation, the state of Oregon is considering the effect of requiring a fishing license for saltwater anglers. Data show that 257,000 Oregon residents engage in some type of saltwater fishing. Certainly a large proportion of these anglers hold licenses for fishing, however this figure may be useful in estimating the revenue generated through the sale of a special license required for saltwater angling.

Allocation & pricing of licenses will certainly remain an important issue for fish and wildlife agencies. Efforts to adopt new licensing which include analyses of the user groups effected are more likely to be justifiable to the public.

Information and education

Many of the problems associated with management of fish and wildlife in the United States are related to problems of information dispersal and sportsman education. As a management action to aid in meeting objectives, information dispersal is notably difficult to evaluate and not always guaranteed effective. As suggested by Mendelsohn (1979) one concern of media campaigns should be understanding the people receiving the information, including their demographic and psychological attributes and their belief system.

The NSFHWAR data concerning the characteristics and demographic origins of some user groups which may aid in planning communication efforts. For example, data which may be useful reveals the out-of-region origin of hunter groups. For example, data from the northeastern region of the U.S.suggests that a high proportion of out-of-region deer hunters originate in the western, southern and midwestern regions. Communication with deer hunters should concentrate more heavily on those regions.

Other information about specific user groups may aid in targeting people for communication. More effective communication will result from knowing for whom information is intended and where they reside.

Selecting Modifications in Programs

Implementation of management actions designed to achieve specific objectives is the culmination of the management planning process. It will have effects and the good manager will ask whether or not the actions are effective, and whether or not the objectives remain relevant. Thus, implementation of actions should lead to evaluation and evaluation can often lead to recognizing the need to modify programs. The kinds of information useful for selecting program modifications are the same kinds useful for selecting management objectives and actions. Sometimes user information is what is needed.

Effective program evaluation can occur when baseline data exists, management objectives have been selected, and information comparable to the baseline data has been collected after program implementation. The NSFHWAR data can be useful as baseline or followup data, however, as followup data it, of course, requires previously collected data of a similar nature. For example, if New York had established a program to increase migratory bird hunters' days afield on state refuges they could compare data collected in their planning year to the 1980 survey data (i.e. 41,000 days) to aid in program evaluation.

Unfortunately, many states may not have data from earlier years and in such cases the 1980 survey data can serve as a baseline against which future objectives and data can be compared. Particularly useful would be participation information such as number of hunters per user group, number of days and hunting per region for each hunter group.

Conclusion

We have illustrated applications of NSFHWAR data concerning consumptive recreation users of fish and wildlife in the United States. There are certainly other applications of data which will be recognized by planners and managers within fish and wildlife management agencies. User group data for the nation, regions within the nation, and selected states are located in the Appendices. Furthermore, individual state agencies may wish to obtain raw data for analyses specific to their problems. In each case the survey offers social information which managers can use to aid in effective planning and management of fish and wildlife for recreation.

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Appendix A: National Data

Table 3 Selected characteristics, sportsmen and nonsportsmen nation-wide, 1980.

Characteristic	Sportsmen[a] (percent)	Nonsportsmen[b] (percent)
Marital Status[c]		
Married	65.6	56.5
Widowed	2.2	9.3
Divorced	5.1	5.8
Separated	1.5	2.1
Never Married	25.7	26.2
Sex[d]		
Male	70.5	39.0
Female	29.5	61.0
Education		
None	.2	.7
Kindergarten	.5	.7
Elementary	23.9	24.7
High school	46.6	45.7
College	28.8	28.2
Average age[d]	31.9 years	38.1 years
Population growing up[e]		
Large urban	14.9	22.2
Medium urban	17.0	18.9
Small city	18.2	17.7
Small town	19.9	18.2
Rural	30.1	23.0
Employed[e,f]		
Yes	68.9	52.6
No	30.1	47.4
Race[d]		
White	92.0	83.0
Black	5.9	13.6
American Indian, Aleut, Eskimo	.6	.5
Asian, Pacific Islander	1.1	1.9
Other	.5	1.0
Site of residence[d]		
Urban	60.4	72.7
Rural	39.6	27.3
Average household size[d]	3.6 persons	3.4 persons

[a] U.S. population age 6 years old and older who hunted or fished in 1980.

[b] U.S. population age 6 years old and older who did no hunting or fishing in 1980.

[c] Persons 14 years old and older.

[d] Persons 6 years old and older.

[e] Persons 16 years old and older.

[f] Have a job or own a business. Excludes persons who are retired, going to school, or keeping house.

Table 4 Number of trips and days of participation in regions nation-wide[a], hunter groups defined by type of game, 1980.

Hunter segment[b]	Trip	Days Total	Days Mean	No. of hunters
Region 1				
Big game	6,371,170	9,346,763	8	1,091,777
Small game	9,650,881	10,246,575	9	1,039,900
Migratory birds	4,382,208	4,996,874	7	666,926
Other animals	1,252,713	1,268,946	8	147,872
Region 2				
Big game	6,083,974	8,[illegible]3	7	1,169,955
Small game	15,991,311	16,661,970	12	1,373,875
Migratory birds	6,578,385	7,090,780	7	938,637
Other animals	4,048,544	4,227,338	12	335,566
Region 3				
Big game	18,308,817	23,542,628	8	2,753,005
Small game	40,843,329	42,745,393	12	3,395,715
Migratory birds	7,797,216	8,376,662	8	956,593
Other animals	966,693	9,993,766	15	665,701
Region 4				
Big game	29,804,739	33,725,162	12	2,670,509
Small game	40,776,248	41,613,694	12	3,215,372
Migratory birds	11,315,673	11,952,946	7	1,545,981
Other animals	9,415,253	9,476,380	16	562,051
Region 5				
Big game	26,094,042	29,962,451	9	3,297,850
Small game	27,166,687	27,814,506	11	2,502,552
Migratory birds	5,630,446	5,818,225	8	721,244
Other animals	10,014,704	10,277,522	15	683,375
Region 6				
Big game	4,366,438	7,014,071	6	1,002,805
Small game	10,158,338	11,379,503	10	1,082,426
Migratory birds	4,043,005	4,324,899	8	904,039
Other animals	2,990,141	3,118,311	12	257,096
Region 7				
Big game	270,212	482,362	9	52,014
Small game	449,237	465,973	13	34,309
Migratory birds	108,417	137,460	5	22,184
Other animals	56,218	67,295	18	3,687
TOTAL				
Big game	91,356,800			11,806,000
Small game	145,167,000			12,362,000
Migratory birds	39,960,000			5,311,000
Other animals	37,468,000			2,642,000

[a] U.S. Fish and Wildlife Service Regions. See Figure 1 for a map.

[b] Hunter segments defined by type of game hunted. Groups are not mutually exclusive in that a hunter could appear in and be counted in more than one group. Inclusion in a segment and amount of participation are based on information on hunting within the United States in hunter's five most often hunted locations.

Table 6 — Age of introduction to hunting[a] for hunting groups nation-wide, 1980.

Hunter segment[b]	Age of introduction[c] 01-12	13-19	20-29	30-39	40-98	Average age
	-------------------	Number of hunters	-------------------			
Big game	6,035,219	4,694,619	722,533	204,232	90,021	13.4
Deer	5,790,451	4,577,238	691,023	199,050	86,082	13.4
Elk	447,819	230,185	48,755	17,600	7,634	13.0
Antelope	64,492	37,850	8,531	2,878	5,824	14.7
Moose	9,138	5,576	88	--	633	12.2
Bear	324,356	192,757	28,902	3,340	--	12.3
Turkey	925,980	458,788	42,767	21,638	17,483	12.5
Mountain goat	2,880	--	--	--	--	9.4
Mountain sheep	2,037	2,080	--	--	--	11.6
Alaska big game	28,237	11,952	5,157	72	--	12.3
Hawaii big game	11,560	5,778	2,082	--	661	14.7
Small game	6,904,329	4,629,921	587,081	104,220	57,813	12.7
Rabbit	4,237,640	2,899,850	309,705	49,487	30,330	12.6
Quail	2,424,715	1,057,686	115,848	29,835	9,585	11.6
Grouse	1,304,223	854,050	82,869	20,874	10,604	12.8
Chukar	364,736	221,648	45,124	10,443	9,944	13.4
Squirrel	3,684,063	2,319,814	239,988	36,258	23,130	12.4
Pheasant	2,261,216	1,671,559	193,021	38,478	17,246	13.0
Alaska small game	21,227	7,133	3,758	485	--	12.5
Hawaii small game	7,480	3,692	934	--	484	14.7
Migratory birds	3,382,736	1,616,975	215,088	62,156	21,941	12.1
Geese	887,689	435,864	45,063	9,328	10,124	12.0
Duck	1,742,855	812,778	102,790	27,216	16,777	12.0
Coot, rail	89,812	42,935	1,270	--	--	11.0
Woodcock	279,649	200,899	6,099	1,759	--	12.3
Dove	2,031,870	798,781	128,938	40,725	7,268	11.8
Pigeon	70,351	14,611	--	--	--	10.2
Alaska migratory birds	13,671	5,314	812	377	--	11.4
Hawaii migratory birds	704	1,162	189	--	--	14.6
Other animals	1,687,319	880,510	50,915	10,049	11,335	11.6
Crow	306,947	153,426	14,423	2,712	--	11.7
Woodchuck	404,697	287,714	8,447	5,854	4,960	12.5
Raccoon	748,509	322,850	19,009	3,418	5,232	11.2
Fox	362,520	167,994	1,553	--	--	11.1
Coyote	461,578	176,078	14,282	692	--	11.0
Alaska fur bearers	1,890	568	301	305	--	12.9
Other	526,960	234,544	33,802	10,676	1,143	11.7
Bow hunters	1,174,099	723,769	92,581	14,392	1,869	12.4
Muzzle loader hunters	495,965	284,342	38,874	6,824	2,750	12.3
Pistol hunters	806,325	494,397	48,075	5,893	1,918	11.9

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[a] Introduction to hunting in general, not a particular species, game type, or using special weapons.

[b] Hunter segments defined by type of game, species hunted, and special weapon hunters. Groups are not mutually exclusive in that a hunter could appear in and be counted in more than one group.

[c] Dashes indicate that no person in the sample reported information in this item.

Table 6 Years of hunting experience[a] of hunting groups nation-wide, 1980.

	Years hunting			Average
Hunter segment[b]	1-9	10-19	20-98	years
	--------number of hunters--------			
Big game	3,194,252	3,396,379	5,104,558	19.5
Deer	3,093,823	3,299,921	4,899,158	19.4
Elk	158,851	203,079	390,791	21.7
Antelope	31,589	30,898	56,742	19.7
Moose	1,447	3,590	10,398	27.0
Bear	117,888	189,836	241,255	19.4
Turkey	274,049	447,006	744,986	22.1
Mountain goat	474	225	2,181	26.9
Mountain sheep	547	1,675	1,895	20.2
Alaska big game	11,578	18,325	15,757	17.4
Hawaii big game	10,100	5,331	4,196	12.6
Small game	3,680,263	3,453,114	5,037,220	19.0
Rabbit	2,467,415	2,222,252	2,796,470	17.6
Quail	924,986	1,056,276	1,628,318	19.7
Grouse	591,809	716,053	963,177	19.2
Chuckar	189,537	160,387	300,719	20.1
Squirrel	1,965,168	1,915,034	2,404,806	18.3
Pheasant	1,314,328	1,149,104	1,698,325	18.3
Alaska small game	7,566	14,311	10,841	16.3
Hawaii small game	8,496	1,765	2,329	11.4
Migratory birds	1,520,632	1,626,212	2,108,433	18.3
Geese	329,542	411,206	626,859	19.7
Duck	749,580	836,694	1,103,892	18.6
Coot, rail	43,251	42,687	47,708	16.7
Woodcock	135,390	187,488	165,157	17.2
Dove	835,649	953,633	1,197,723	18.2
Pigeon	19,065	21,082	44,444	18.6
Alaska migratory birds	3,410	10,008	6,871	17.6
Hawaii migratory birds	1,337	189	489	12.4
Other animals	747,773	852,645	1,000,789	18.3
Crow	161,830	150,762	160,196	16.4
Woodchuck	181,044	226,636	283,992	18.8
Raccoon	306,090	360,062	428,919	18.8
Fox	136,242	189,633	202,131	18.5
Coyote	184,054	225,218	235,133	17.3
Alaska fur bearers	878	984	1,317	17.9
Other	233,132	246,645	323,129	19.0
Bow hunters	527,215	755,455	722,113	16.9
Muzzle loader hunters	176,288	248,303	398,193	20.3
Pistol hunters	359,933	482,276	467,880	17.5

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[a] Years spent hunting in general, not hunting a particular species, game type, or using special weapons.

[b] Hunter segments defined by type of game, species hunted, and special weapon hunters. Groups are not mutually exclusive in that a hunter could appear in and be counted in more than one group.

Table 7 Most important reason for hunting[a] given by hunter groups nation-wide, 1980

Hunting segments[b]	Obtain meat	Problem animals	Friends/family	Sport/recr.	Close to nature	Obtain trophy	Other
	Number of hunters						
Big game hunters	3,336,154	40,739	1,145,668	6,191,235	1,275,764	154,577	51,388
Deer	2,901,720	40,343	1,111,557	5,986,566	1,048,998	152,827	50,357
Elk	310,261	591	54,319	327,280	58,829	19,225	2,389
Antelope	54,042	--	7,344	38,477	9,728	6,034	1,764
Moose	8,615	--	--	2,196	2,952	1,255	987
Bear	148,434	2,639	28,454	279,981	70,020	14,406	1,220
Turkey	303,101	3,104	137,307	829,147	167,335	17,804	7,799
Mountain goat	2,640	--	--	240	--	--	--
Mountain sheep	1,603	--	--	1,599	--	915	--
Alaska big game	32,433	--	841	9,252	2,466	92	284
Hawaii big game	10,480	--	1,678	6,495	1,425	--	--
Small game hunters	2,672,183	99,901	1,196,281	6,984,363	1,134,935	133,814	65,620
Rabbit	1,701,815	66,233	674,543	4,260,996	720,384	65,679	23,759
Quail	734,781	32,428	331,950	2,100,722	374,846	20,988	22,304
Grouse	469,838	5,157	213,910	1,285,949	256,086	16,486	14,012
Chukar	139,575	1,017	50,285	366,819	85,323	5,191	585
Squirrel	1,483,974	51,586	493,100	3,538,308	645,972	63,913	22,824
Pheasant	756,694	11,733	415,939	2,512,602	409,450	26,184	28,042
Alaska small game	19,144	--	723	8,434	3,725	--	284
Hawaii small game	7,643	290	484	3,987	186	--	--
Migratory bird hunters	1,239,671	24,684	526,467	3,074,421	515,739	60,559	16,294
Geese	224,278	6,097	125,315	838,855	145,868	19,887	4,257
Duck	540,104	8,896	242,296	1,611,773	246,326	33,525	5,875
Coot, rail	23,942	2,097	12,952	71,801	16,737	3,189	784
Woodcock	78,845	152	34,161	291,522	67,489	9,679	723
Dove	566,334	15,478	307,171	1,776,481	283,356	38,571	10,453
Pigeon	28,714	--	3,815	34,684	17,749	--	--
Alaska mig. birds	14,222	--	604	3,905	1,127	--	179
Hawaii mig. birds	409	--	--	1,646	--	--	--
Other animal hunters	593,405	84,644	205,696	1,423,716	252,353	29,482	20,526
Crow	89,533	14,081	46,205	237,407	76,548	10,030	4,487
Woodchuck	136,528	22,168	45,321	363,472	92,907	14,910	5,153
Raccoon	265,606	22,548	76,109	622,029	78,288	23,972	10,619
Fox	127,950	9,988	34,103	303,231	49,017	5,857	1,929
Coyote	183,464	16,619	37,472	329,358	62,576	13,992	6,202
Alaska fur bearers	2,085	--	99	717	278	--	--
Other	181,911	27,647	82,122	390,286	90,234	18,053	9,384
Bow hunters	460,901	11,043	124,314	1,054,216	298,045	45,540	8,293
Muzzle loader hunters	194,720	5,822	69,889	465,382	76,586	7,253	5,945
Pistol hunters	379,011	47,135	93,293	660,964	149,315	24,560	9,286

[a] Reasons for hunting in general, not hunting a particular species, game type or using special weapons.

[b] Hunter segments defined by type of game, species hunted, and special weapon hunters. Groups are not mutually exclusive in that a hunter could appear in and be counted in more than one group.

[c] Dashes indicate that no person in the sample reported information on this item.

Table 8. Second most important reason for hunting[a] given by hunter groups nation-wide, 1980

Hunter segments[b]	Second most important reason[c]						
	Obtain meat	Problem animals	Friends family	Sport/ recr.	Close to nature	Obtain trophy	Other
	Number of hunters						
Big game hunters	2,662,422	148,124	2,457,446	2,986,778	2,431,230	603,313	84,367
Deer	2,592,714	144,612	2,355,641	2,857,518	2,334,433	586,599	77,677
Elk	183,376	15,876	120,576	218,483	156,665	45,260	5,602
Antelope	30,135	2,870	17,856	40,999	17,819	5,675	208
Moose	4,204	1,174	620	5,072	320	2,240	--
Bear	118,018	10,394	110,405	141,978	111,039	29,261	965
Turkey	292,960	25,223	308,554	337,478	330,649	123,144	6,078
Mountain goat	57	--	622	2,018	183	--	--
Mountain sheep	630	--	471	1,566	654	796	--
Alaska big game	6,425	581	6,404	17,294	8,413	427	603
Hawaii big game	4,252	795	2,323	4,245	2,788	5,485	189
Small game hunters	2,717,080	218,338	2,836,258	2,969,856	2,604,186	440,474	117,702
Rabbit	1,726,653	164,208	1,652,091	1,854,741	1,577,842	278,622	47,268
Quail	826,578	72,729	923,835	852,998	719,654	108,437	22,546
Grouse	468,639	38,669	492,128	519,321	592,880	100,214	7,936
Chukar	142,935	12,174	142,782	166,072	153,359	22,286	3,481
Squirrel	1,483,652	130,572	1,274,043	1,557,720	1,386,228	268,042	56,826
Pheasant	875,779	76,380	1,021,933	935,290	975,955	157,792	32,478
Alaska small game	6,791	407	4,468	10,541	7,139	349	459
Hawaii small game	2,614	--	769	2,568	1,282	5,257	--
Migratory bird hunters	1,145,008	95,484	1,273,021	1,324,927	1,052,792	211,245	24,331
Geese	314,087	24,264	331,477	319,121	296,325	47,088	1,629
Duck	604,148	51,046	644,205	644,501	559,760	114,733	14,989
Coot, rail	30,497	6,574	30,582	31,141	26,494	4,493	214
Woodcock	108,012	10,694	81,805	125,930	118,910	31,323	--
Dove	655,671	55,299	748,162	740,261	580,752	121,182	9,983
Pigeon	17,314	619	25,831	22,020	9,578	--	--
Alaska mig birds	2,081	407	2,708	6,764	5,129	72	--
Hawaii mig.birds	680	--	--	194	585	--	--
Other animal hunters	567,371	148,015	478,907	642,925	548,863	126,496	36,505
Crow	100,066	25,130	77,378	129,245	102,664	31,020	2,643
Woodchuck	146,322	55,904	110,146	145,251	180,972	38,523	703
Raccoon	254,888	42,586	211,711	265,050	219,386	45,817	29,396
Fox	126,322	27,924	80,309	114,604	127,722	35,851	4,522
Coyote	142,225	48,534	113,085	164,528	131,819	29,131	4,240
Alaska fur bearers	823	--	309	702	978	--	387
Other	158,788	49,385	154,222	207,155	155,784	40,498	5,935
Bow hunters	468,205	21,991	353,393	482,003	460,441	143,089	5,318
Muzzle loader hunters	192,037	19,001	154,471	180,410	206,820	41,982	8,709
Pistol hunters	262,432	46,610	282,949	365,108	272,945	59,576	20,133

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[a] Reasons for hunting in general, not hunting a particular species, game type or using special weapons.

[b] Hunter segments defined by type of game, species hunted, and special weapon hunters. Groups are not mutually exclusive in that a hunter could appear in and be counted in more than one group.

[c] Dashes indicate that no person in the sample reported information on this item.

Table 9 . Days of hunting on public land by hunter groups defined by type of game, 1980.

	Hunter segment[a]			
Land Ownership	Big game	Small game	Migratory birds	Other animals[b]
Federally owned	17,400,000	8,981,000	2,589,000	1,766,000
State owned	14,954,000	12,286,000	4,351,000	1,663,000
Locally owned	9,113,000	12,396,000	3,778,000	2,767,000
Unknown onwership	4,415,000	4,456,000	1,602,000	858,000
Total days on public land	45,881,000	39,118,000	12,321,000	7,055,000

[a] Hunter segments defined by type of game hunted. Groups are not mutually exclusive in that a hunter could appear in and be counted in more than one group.

[b] Includes crow, woodchuck, raccon, fox, coyote, and others.

Table 10. Expenditures made by hunter groups defined by type of game, 1980.

Hunter segment[a]	Expenses (thousands of dollars)		
	Travel[b]	Equipment	Access related[c]
Big game	1,444,237	861,607	57,228
Small game	867,508	650,804	13,718
Migratory birds	349,328	202,693	15,356
Other animals[d]	122,832	93,054	671

[a] Hunter segments defined by type of game hunted. Groups are not mutually exclusive in that a hunter could appear and be counted in more than one group.

[b] Includes food, lodging, and transportation costs.

[c] Includes guide fees, pack trip or package fees, and private or public land use or access fees.

[d] Includes crow, woodchuck, raccoon, fox, coyote, and others.

Table 11. Hunters and days of participation in regions nation-wide[a], hunter groups defined by species hunted, 1980.

Hunter segment[b]	Region 1			Region 2			Region 3		
	Number of hunters[c]	Days[c]		Number of hunters[c]	Days[c]		Number of hunters[c]	Days[c]	
		Total	Mean		Total	Mean		Total	Mean
Deer	1,010,366	7,310,508	7	1,121,647	7,744,068	6	2,712,342	22,632,074	8
Elk	307,423	1,894,138	6	27,017	175,340	6	--	--	--
Antelope	16,568	86,726	5	5,667	31,711	5	--	--	--
Moose	2,095	10,480	5	--	--	--	567	5,111	9
Bear	87,810	828,138	9	17,990	110,104	6	48,364	350,738	7
Turkey	22,560	96,746	4	214,781	1,433,415	6	141,440	758,387	5
Mountain goat	474	474	1	--	--	--	--	--	--
Mountain sheep	1,598	15,044	9	--	--	--	--	--	--
Alaska big game	--	--	--	--	--	--	--	--	--
Hawaii big game	20,079	207,996	10	--	--	--	--	--	--
Rabbit	422,046	3,738,646	8	724,962	8,819,754	12	2,309,396	23,011,497	10
Quail	475,740	3,995,405	8	864,960	7,887,885	9	599,492	6,060,012	10
Grouse	219,587	1,800,924	8	15,805	93,188	5	817,986	7,559,515	9
Chuckar	198,009	1,333,418	6	2,079	15,093	7	190,813	2,056,526	10
Squirrel	150,698	1,106,661	7	535,817	6,217,864	11	1,671,495	17,600,168	10
Pheasant	484,970	3,601,809	7	158,565	739,859	4	1,614,233	13,035,699	8
Alaska small game	--	--	--	--	--	--	--	--	--
Hawaii small game	12,590	230,637	16	--	--	--	--	--	--
Geese	198,115	1,820,854	9	110,601	680,887	6	452,386	3,798,544	8
Duck	378,329	3,129,317	8	301,032	2,216,123	7	690,723	5,808,945	8
Coot, rail	23,631	234,305	9	7,072	44,610	6	35,255	291,198	8
Woodcock	2,300	61,311	26	1,386	1,386	1	199,505	1,434,224	7
Dove	374,394	2,258,596	6	817,710	5,577,096	6	152,454	1,012,790	6
Pigeon	77,308	648,114	8	3,142	13,289	4	1,979	6,275	3
Alaska migratory birds	--	--	--	--	--	--	--	--	--
Hawaii migratory birds	2,055	18,869	9	--	--	--	--	--	--
Crow	26,260	344,123	13	63,649	518,881	8	88,041	980,689	11
Woodchuck	21,204	147,047	16	1,590	19,085	12	155,028	2,439,175	15
Raccoon	10,723	164,497	15	142,071	1,490,478	10	330,883	5,150,894	15
Fox	6,098	27,109	4	32,655	507,870	15	232,960	2,169,806	9
Coyote	106,825	870,326	8	171,476	2,320,151	13	150,289	1,997,785	13
Alaska fur bearers	--	--	--	--	--	--	--	--	--
Other	115,203	647,124	5	178,686	1,754,706	9	105,482	1,909,994	18

Table 11 Continued.

Hunter segment[b]	Region 4			Region 5			Region 6		
	Number of hunters[c]	Days[c]		Number of hunters[c]	Days[c]		Number of hunters[c]	Days[c]	
		Total	Mean		Total	Mean		Total	Mean
Deer	2,624,911	32,054,885	12	3,273,977	27,691,283	8	856,602	4,937,572	5
Elk	--	--	--	--	--	--	427,119	2,914,121	6
Antelope	--	--	--	--	--	--	97,340	367,738	3
Moose	--	--	--	6,074	28,743	4	5,076	54,465	10
Bear	54,378	307,341	5	306,914	1,893,931	6	33,502	311,654	9
Turkey	340,177	2,460,127	7	735,279	4,814,155	6	28,900	100,646	3
Mountain goat	--	--	--	--	--	--	2,134	7,163	3
Mountain sheep	--	--	--	--	--	--	2,381	21,939	9
Alaska big game	--	--	--	--	--	--	--	--	--
Hawaii big game	--	--	--	--	--	--	--	--	--
Rabbit	1,905,258	19,975,599	10	1,821,317	17,471,789	9	446,244	4,703,731	10
Quail	1,121,221	12,520,785	11	368,519	3,462,673	9	307,160	3,016,383	9
Grouse	78,315	468,780	5	926,667	9,110,009	9	248,261	1,824,746	7
Chukar	8,439	37,200	4	156,781	1,723,531	10	100,567	1,026,921	10
Squirrel	2,428,750	25,692,170	10	1,464,872	13,779,451	9	136,583	1,553,639	11
Pheasant	22,116	85,655	3	1,169,716	10,524,482	8	791,298	6,512,529	8
Alaska small game	--	--	--	--	--	--	--	--	--
Hawaii small game	--	--	--	--	--	--	--	--	--
Geese	116,635	930,568	7	263,883	2,043,800	7	261,202	2,205,444	8
Duck	639,930	5,289,171	8	370,044	2,687,011	7	374,652	2,948,261	7
Coot, rail	31,905	298,353	9	17,572	141,852	8	18,640	187,958	10
Woodcock	77,061	636,215	8	211,571	1,619,775	7	625	1,251	2
Dove	1,224,356	6,827,243	5	273,745	1,723,340	6	203,123	1,358,685	6
Pigeon	2,549	4,073	1	371	5,574	15	5,443	106,960	19
Alaska migratory birds	--	--	--	--	--	--	--	--	--
Hawaii migratory birds	--	--	--	--	--	--	--	--	--
Crow	113,202	1,073,136	9	164,275	1,403,232	8	26,681	209,832	7
Woodchuck	77,138	1,490,428	19	444,976	6,239,327	14	13,443	107,605	8
Raccoon	359,225	6,467,998	18	236,135	4,387,984	18	46,094	735,966	15
Fox	61,727	993,027	16	137,479	1,424,681	10	68,162	886,153	13
Coyote	30,585	343,508	11	20,700	250,114	12	179,715	1,703,902	9
Alaska fur bearers	--	--	--	--	--	--	--	--	--
Other	232,368	3,229,237	13	80,236	1,005,865	12	104,365	1,406,598	13

Table 11. Continued.

	Region 7			Total[d]		
Hunter segment[b]	Number of hunters[c]	Days[c] Total	Days[c] Mean	Number of hunters[c]	Days[e] Total	Days[e] Mean
Deer	4,103	15,550	3	11,400,000	102,496,000	9
Elk	--	--	--	760,000	4,984,000	7
Antelope	--	--	--	120,000	486,000	4
Moose	1,623	14,222	8	50,000	351,000	7
Bear	1,969	9,453	4	561,000	3,932,000	7
Turkey	--	--	--	1,471,000	9,875,000	7
Mountain goat	272	644	2	3,000	8,000	3
Mountain sheep	138	1,248	9	4,000	38,000	9
Alaska big game	46,250	569,262	12	46,000	569,000	12
Hawaii big game	--	--	--	20,000	200,000	10
Rabbit	754	4,984	6	7,581,000	78,794,000	10
Quail	--	--	--	3,671,000	36,959,000	10
Grouse	272	1,676	6	2,309,000	21,440,000	9
Chuckar	--	--	--	652,000	6,209,000	9
Squirrel	57	804	14	6,379,000	65,962,000	10
Pheasant	--	--	--	4,214,000	34,[illegible],000	8
Alaska small game	33,226	851,941	25	33,000	852,000	26
Hawaii small game	--	--	--	12,000	73,000	10
Geese	1,306	8,618	6	1,357,000	1[illegible],572,000	8
Duck	2,379	11,613	5	2,736,000	22,202,000	8
Coot, rail	--	--	--	134,000	1,150,000	9
Woodcock	--	--	--	491,000	3,754,000	8
Dove	318	956	3	3,026,000	18,775,000	6
Pigeon	--	--	--	88,000	784,000	9
Alaska migratory birds	20,289	203,096	10	20,000	203,000	10
Hawaii migratory birds	--	--	--	2,055	19,000	9
Crow	--	--	--	431,000	4,530,000	9
Woodchuck	--	--	--	702,000	10,443,000	15
Raccoon	--	--	--	1,103,000	18,329,000	16
Fox	184	1,849	10	536,000	6,012,000	11
Coyote	--	--	--	655,000	7,610,000	11
Alaska fur bearers	3,179	160,492	50	3,000	160,000	50
Other	690	3,089	4	880,000	10,327,000	12

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[a] U.S. Fish and Wildlife Service Regions. See Figure 1 for a map.

[b] Hunter segments defined by species hunted. Groups are not mutually exclusive in that a hunter could appear in and be counted in more than one group. Inclusion in a segment and amount of participation are based on information on hunting within the United States in hunters' five most often hunted locations.

[c] Dashes indicate that no person in the sample reported information on this item.

[d] Source of total numbers of hunters and days of participation: U.S. Fish and Wildlife Service and U.S. Bureau of the Census. 1980 National Survey of Fishing, Hunting and Wildlife-related Recreation. U.S. Government Printing Office, Washington, D.C., 1982.

Table 12. Days of participation by special weapon hunters, 1980.

Hunter segment[a]	Game hunted Big game	 Small game	 Migratory birds	 Other game[b]	Number of hunters
	days of participation				
Bow/arrow	15,207,097	1,144,038	78,580	111,034	2,015,000
Muzzle Loader	3,044,262	1,263,554	208,046	502,131	833,000
Pistol	1,864,555	5,471,559	57,800	2,543,830	1,315,000

[a] Hunter segments defined by type of game hunted. Groups are not mutually exclusive in that a hunter could appear and be counted in more than one group.

[b] Includes crow, woodchuck, raccoon, fox, coyote, and others.

Table 13 Number of trips and days of participation in regions nation-wide[a], angler groups defined by type of fishing, 1980

Angler/segment[b]	Trip[c]	Days[c] Total	Days[c] Mean	No. of fishermen[c]
Region 1				
Great Lakes	--	--	--	--
Freshwater	63,230,217	77,820,210	16	4,825,723
Saltwater	25,514,255	27,255,928	9	2,976,668
Region 2				
Great Lakes	--	--	--	--
Freshwater	55,651,648	67,367,432	16	4,017,106
Saltwater	15,949,884	17,731,262	17	1,037,500
Region 3				
Great Lakes	29,249,024	33,090,225	13	2,511,398
Freshwater	159,138,424	185,498,098	18	10,047,554
Saltwater	1,886	762	--	1,695
Region 4				
Great Lakes	--	--	--	--
Freshwater	176,031,496	190,419,644	19	9,570,325
Saltwater	41,886,961	45,263,466	11	4,272,745
Region 5				
Great Lakes	6,469,976	7,441,641	14	525,366
Freshwater	91,685,333	100,268,805	17	5,688,165
Saltwater	45,154,562	49,120,555	12	3,947,750
Region 6				
Great Lakes	--	--	--	--
Freshwater	31,482,397	44,640,095	14	3,044,777
Saltwater	930	1,070	1	930
Region 7				
Great Lakes	--	--	--	--
Freshwater	1,912,582	2,396,469	14	169,916
Saltwater	777,786	1,062,198	9	105,722
Total[d]				
Great Lakes	35,720,000			3,016,000
Freshwater	584,811,000			35,308,000
Saltwater	130,667,000			12,344,000

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[a] U.S. Fish and Wildlife Service Regions. See Figure 1 for a map.

[b] Angler segments defined by type of fishing. Groups are not mutually exclusive in that a fisherman could appear and be counted in more than one group. Inclusion in a segment and amount of participation are based on information on fishing within the United States and in anglers' five most often fished locations.

[c] Dashes indicate that no person in the sample reported information on this item.

[d] Source: U.S. Fish and Wildlife Service and U.S. Bureau of the Census. 1980 National Survey of Fishing, Hunting and Wildlife-Associated Recreation. U.S. Government Printing Office, Washington, D.C., 1982.

Table 14. Days of participation in regions nation-wide[a], angler groups defined by species fished, 1980

Angler segment[b]	Region 1 Number of fishermen	Region 1 Days Total	Region 1 Mean	Region 2 Number of fishermen	Region 2 Days Total	Region 2 Mean	Region 3 Number of fishermen	Region 3 Days Total	Region 3 Mean	Region 4 Number of fishermen	Region 4 Days Total	Region 4 Mean
Bass	1,632,042	24,820,021	15	2,525,771	47,370,409	16	5,593,038	102,251,156	18	5,656,958	109,490,972	19
Panfish	1,357,079	21,741,735	16	2,011,068	33,677,049	16	7,786,725	137,753,766	17	6,029,574	108,408,453	17
Catfish	1,513,069	23,390,059	15	2,227,832	35,217,299	15	3,716,429	69,595,848	18	4,154,651	72,512,106	17
Walleye	35,868	510,277	14	129,016	1,631,172	12	3,339,701	53,721,918	16	324,520	6,612,723	18
Pike	17,133	66,334	3	55,028	347,609	6	2,874,668	43,116,898	14	189,525	3,404,025	17
Trout	3,614,504	46,335,606	12	625,290	5,832,973	9	1,666,053	20,285,171	12	781,613	9,798,081	12
Salmon	1,470,256	17,472,211	11	26,250	103,115	3	973,193	9,485,370	10	15,061	136,636	9
Rockfish	1,115,014	12,330,928	11	282,711	4,827,418	17	232,068	5,361,439	23	905,512	13,095,338	15

Angler segment[b]	Region 5 Number of fishermen	Region 5 Days Total	Region 5 Mean	Region 6 Number of fishermen	Region 6 Days Total	Region 6 Mean	Region 7 Number of fishermen	Region 7 Days Total	Region 7 Mean	Total Number of fishermen	Total Days Total
Bass	3,434,042	54,608,217	15	836,038	12,930,647	15	234	365	1	19,679,000	346,309,000
Panfish	2,632,007	45,722,852	17	803,761	12,334,616	15	8,243	50,054	6	20,628,000	359,768,000
Catfish	1,780,194	30,680,159	17	804,759	11,967,528	14	222	11,137	50	14,157,000	243,374,000
Walleye	657,653	10,405,699	15	591,013	7,720,900	13	8,990	54,146	6	5,087,000	78,657,000
Pike	1,267,031	18,757,169	14	386,042	5,239,529	14	21,429	233,405	10	4,792,000	71,165,000
Trout	3,109,079	48,979,353	15	1,814,474	21,553,588	11	95,176	1,091,444	11	11,666,000	153,376,000
Salmon	434,496	5,100,327	11	94,213	729,042	7	183,367	2,408,203	13	3,147,000	35,616,000
Rockfish	1,460,535	19,312,563	13	97,306	1,879,988	19	10,279	123,362	12	4,118,000	57,731,000

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[a] U.S. Fish and Wildlife Service Regions. See Figure 1 for a map.

[b] Angler segments defined by species fished. Includes both freshwater and saltwater species. Groups are not mutually exclusive in that a fisherman could appear and be counted in more than one group. Inclusion in a segment and amount of participation are based on information on fishing within the United States and in anglers' five most often fished locations.

Table 15. Age of introduction[a] and years of fishing[b] for angler groups defined by type of fishing and fish species, 1980.

Angler segment[c]	Age of introduction						Years fishing			
	01-12	13-19	20-29	30-39	40-98	Ave. age	01-09	10-19	20-98	Ave. years
	number of fishermen						number of fishermen			
Great Lakes	2,466,999	290,581	146,816	54,359	44,516	9.6	483,584	871,587	1,650,617	23.2
Freshwater	28,346,023	3,638,795	1,806,681	686,607	620,881	10.1	6,402,166	10,409,109	18,169,656	22.4
Saltwater	9,632,158	1,267,151	606,916	257,778	251,657	10.3	2,190,206	3,460,973	6,345,142	22.4
Bass	20,792,121	2,119,180	963,737	339,432	320,652	9.2	3,450,703	7,511,480	13,527,856	23.2
Pan fish	21,225,195	2,373,898	1,217,598	365,130	421,073	9.6	3,538,092	7,239,431	14,801,337	24.2
Catfish	13,576,076	1,574,104	763,404	213,930	207,898	9.4	2,525,558	4,936,794	8,812,646	23.0
Walleye	5,477,850	527,318	225,763	104,020	97,693	9.2	645,141	1,812,518	3,973,852	25.1
Pike	5,059,722	492,902	218,692	88,534	45,420	8.9	662,729	1,892,776	3,345,705	23.7
Trout	12,858,180	1,267,046	624,173	190,939	147,323	9.0	2,320,820	4,792,105	7,947,156	22.7
Salmon	3,363,695	265,537	139,339	44,018	51,299	8.7	394,976	1,154,645	2,306,677	24.6
Rock fish	4,173,183	521,194	171,785	61,448	52,523	9.2	563,292	1,575,665	2,812,006	23.6

[a] Introduction to fishing in general, not fishing a particular species or type of waters.

[b] Years spent fishing in general, not fishing a particular species or type of waters.

[c] Angler segments defined by type of fishing and species fished. Groups are not mutually exclusive in that an angler could appear and be counted in more than one group.

Table 16. Locations most frequently fished by angler groups defined by type of fishing, 1980.

Angler segment[a]	Freshwater				Saltwater		
	Large Res.	Small Res.	Lakes	Rivers/Str.	Deep sea	Surf/Shore	Sounds
	Number of Fishermen						
Freshwater	14,524,000	8,286,000	14,579,000	15,757,000			
Saltwater					4,608,000	6,737,000	5,325,000

[a] Angler segments defined by type of fishing and species fished. Groups are not mutually exclusive in that an angler could appear and be counted in more than one group.

Table 17. Expenditures by angler groups defined by type of fishing, 1980.

	Expenses (in thousands of Dollars)		
Angler segment[a]	Travel	Equipment	Access related[c]
Great Lakes	341,386	NA	23,903
Freshwater	5,035,363	1,585,696	146,270
Saltwater	1,537,024	635,354	141,321

[a] Angler segments defined by type of fishing. Groups are not mutually exclusive in that an angler could appear and be counted in more than one group.

[b] Includes food, lodging, and transportation costs.

[c] Includes guide fees, pack trip or package fees, and private and public land use or access fees.

Table 18. Days of participation, specialty fishing anglers, 1980.

Angler segment[a]	In-state	Out-of-state	Total	Number of anglers[b]
Spear	2,252,000	293,000	2,544,000	441,000
Net	6,039,000	477,000	6,517,000	1,163,000
Ice	11,439,000	484,000	11,922,000	1,992,000
Bow	1,260,000	160,000	1,420,000	293,000
Gigging for frogs	3,885,000	270,000	4,155,000	974,000

[a] Angler segments defined by type of specialty fishing. Groups are not mutually exclusive in that an angler could appear and be counted in more than one group.

[b] Source: U.S. Fish and Wildlife Service and U.S. Bureau of Census. 1980 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation. U.S. Government Printing Office, Washington, D.C., 1982.

Table 19. Age of introduction[a] and years of fishing[b] for angler groups defined by specialty fishing, 1980.

	Age of introduction[d]						Years of fishing			
Angler segment[c]	01-12	13-19	20-29	30-39	40-98	Ave age	01-09	10-19	20-98	Ave. years
	number of anglers						number of anglers			
Spear	392,040	32,983	9,814	5,789	--	7.6	55,106	171,560	187,525	18.6
Net	1,037,839	82,376	24,460	10,962	3,327	8.1	164,184	420,803	558,595	20.6
Ice	1,721,424	137,749	75,576	37,059	11,915	8.6	174,427	631,176	1,179,898	24.5
Bow	268,576	11,088	6,941	5,789	--	7.6	19,059	138,101	124,697	19.3
Gigging for frogs	898,838	52,045	12,728	7,108	2,917	7.8	159,999	406,988	404,474	18.9

[a] Introduction to fishing in general, not fishing a particular species or type of waters.

[b] Years spent fishing in general, not fishing a particular species or type of waters.

[c] Angler segments defined by type of specialty fishing. Groups are not mutually exclusive in that an angler could appear and be counted in more than one group.

[d] Dashes indicate that no person in the sample reported information on this item.

Appendix B: Region 4 Data

Table 71 Selected characteristics, Region 4[a] sportsmen and nonsportsmen, 1980.

Characteristic	Sportsmen[b] (percent)	Nonsportsmen[c] (percent)
Marital Status[d]		
Married	67.9	56.4
Widowed	2.9	10.8
Divorced	5.0	6.0
Separated	1.7	2.6
Never Married	22.5	24.2
Sex[e]		
Male	68.6	37.6
Female	31.4	62.4
Education[e]		
None	.2	.8
Kindergarten	.4	.7
Elementary	25.9	29.2
High school	48.5	46.1
College	24.9	23.2
Average age[e]	33.0 years	38.4 years
Population growing up[f]		
Large urban	9.7	13.5
Medium urban	15.3	17.3
Small city	15.6	15.5
Small town	20.8	19.5
Rural	38.5	34.3
Employed[f,g]		
Yes	66.6	48.9
No	33.4	51.1
Race[e]		
White	88.3	74.0
Black	10.9	25.0
American Indian, Aleut, Eskimo	.4	.3
Asian, Pacific Islander	.2	.4
Other	.1	.3
Site of residence[e]		
Urban	47.4	57.7
Rural	52.6	42.3
Average household size[e]	3.5 persons	3.5 persons

[a] U.S. Fish and Wildlife Service Regions, See Figure 1. States include Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee.

[b] U.S. population age 6 years old and older who hunted or fished in 1980.

[c] U.S. population age 6 years old and older who did no hunting or fishing in 1980.

[d] Persons 14 years old and older

[e] Persons 6 years old and older

[f] Persons 16 years old and older

[g] Have a job or own a business. Excludes persons who are retired, going to school, or keeping house

Table 72. Number of trips and days of participation in regions nation-wide, region 4[a] hunter groups defined by type of game, 1980

Hunter segment[b]	Trips	Days Total[c]	Days Mean	No. of hunters[c]
Region 1				
Big game	912	2,736	3	912
Small game	8,652	21,996	4	5,216
Migratory birds	6,395	16,403	4	3,773
Other animals[d]	6,672	20,016	6	3,336
Region 2				
Big game	52,115	95,030	5	18,387
Small game	133,029	184,255	7	22,269
Migratory birds	42,296	59,399	4	13,877
Other animals[d]	11,847	15,017	3	3,895
Region 3				
Big game	18,291	45,141	5	8,291
Small game	100,475	160,430	5	32,133
Migratory birds	7,076	9,763	2	4,149
Other animals[d]	60,623	59,287	8	7,092
Region 4				
Big game	29,502,174	33,158,776	13	2,544,634
Small game	40,078,719	40,671,457	13	3,022,534
Migratory birds	11,119,350	11,688,517	7	1,474,025
Other animals[d]	9,284,992	9,316,693	17	532,524
Region 5				
Big game	189,048	266,211	10	24,547
Small game	194,020	200,098	13	14,809
Migratory birds	16,567	20,208	3	5,567
Other animals[d]	96,580	101,683	13	7,694
Region 6				
Big game	31,127	171,036	7	23,328
Small game	38,697	230,342	9	25,200
Migratory birds	903	7,226	8	903
Other animals[d]	2,147	6,441	3	2,147
Region 7				
Big game	15,174	45,522	54	843
Small game	--	--	--	--
Migratory birds	--	--	--	--
Other animals[d]	--	--	--	--
Total				
Big game	29,809,000			2,590,000
Small game	40,554,000			3,084,000
Migratory birds	11,193,000			1,493,000
Other animals[d]	9,463,000			549,000

[a] U.S. Fish and Wildlife Service Regions. States include: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee. See Figure 1 for a map of regions.

[b] Hunter segments defined by type of game hunted. Groups are not mutually exclusive in that a hunter could appear and be counted in more than one group. Inclusion in a segment and amount of participation are based on information on hunting within the United States in hunters' five most often hunted locations.

[c] Dashes indicate that no person in the sample reported information on this item.

[d] Includes crow, woodchuck, raccoon, fox, coyote, and others.

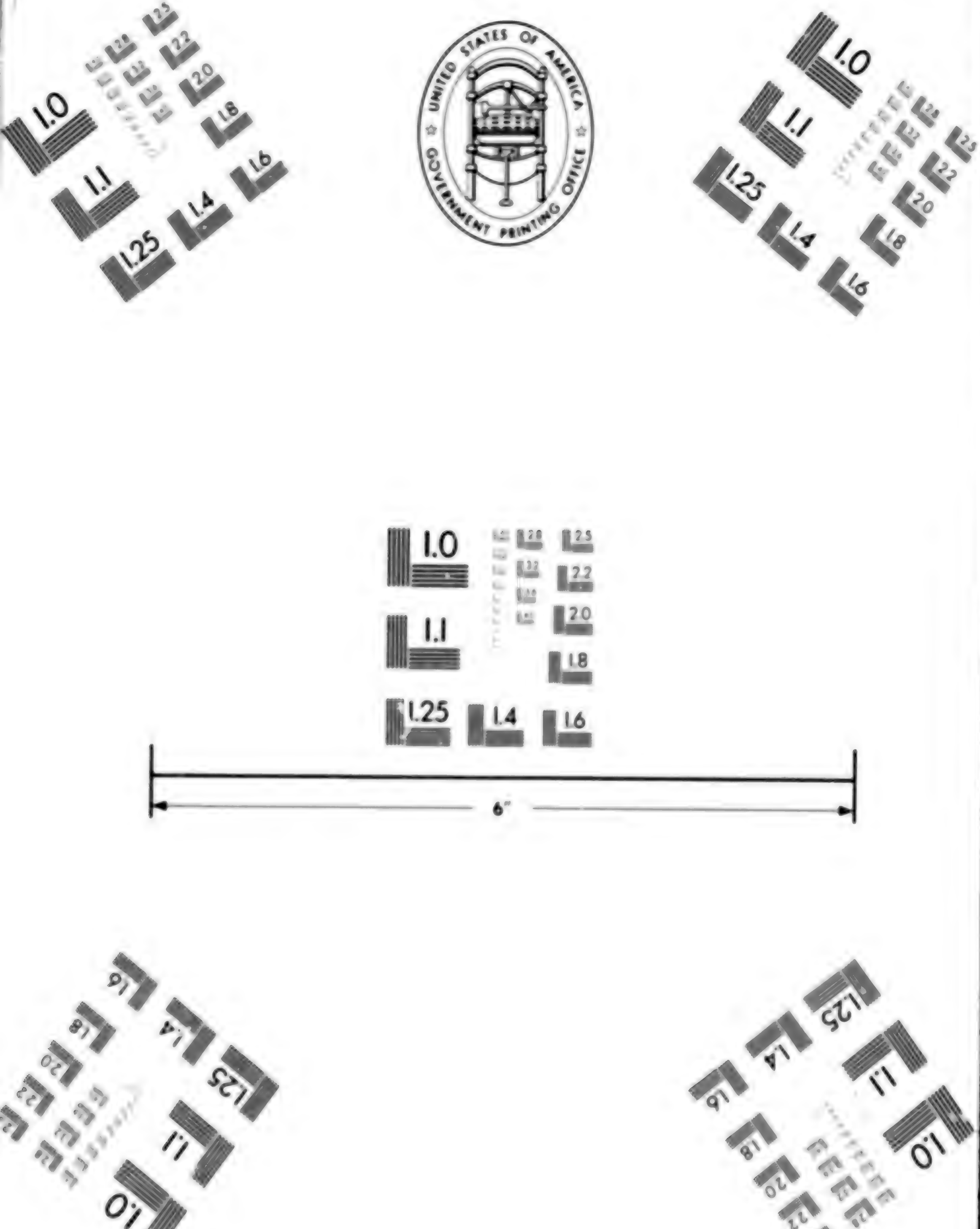
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Table 73. Age of introduction to hunting[a] for Region 4[b] hunter groups, 1980.

Hunter segment[c]	Age of introduction[d] 01-12	13-19	20-29	30-39	40-98	Average age[c]
	number of hunters					
Big game	1,661,080	799,904	78,470	38,814	4,932	11.9
Deer	1,626,594	791,981	76,934	38,105	4,932	11.9
Elk	14,259	3,034	--	--	--	10.1
Antelope	1,194	--	--	--	--	10.0
Moose	--	--	--	--	--	--
Bear	38,397	14,531	1,270	3,076	--	11.7
Turkey	244,119	60,049	4,426	9,373	1,743	11.0
Mountain goat	--	--	--	--	--	--
Mountain sheep	--	--	--	--	--	--
Alaska big game	843	--	--	--	--	10.0
Hawaii big game	--	--	--	--	--	--
Small game	1,915,217	1,018,832	100,032	21,120	11,498	11.9
Rabbit	1,155,534	594,754	52,465	9,727	5,303	11.8
Quail	733,549	311,859	23,510	6,652	2,344	11.4
Grouse	50,176	28,753	1,270	--	--	11.4
Chuckar	7,771	9,527	--	--	--	14.3
Squirrel	1,472,531	751,926	78,168	16,363	10,382	11.9
Pheasant	32,613	25,295	4,507	--	--	12.4
Alaska small game	--	--	--	--	--	--
Hawaii small game	--	--	--	--	--	--
Migratory birds	1,043,506	400,207	29,486	7,337	6,158	11.2
Geese	68,309	32,598	849	--	1,721	11.3
Duck	432,446	153,329	11,130	3,062	2,375	11.0
Coot, rail	20,510	10,802	1,270	--	--	10.9
Woodcock	53,812	16,003	2,091	--	--	10.4
Dove	859,624	303,991	18,681	6,802	4,437	11.0
Pigeon	1,524	--	--	--	--	6.0
Alaska migratory birds	--	--	--	--	--	--
Hawaii migratory birds	--	--	--	--	--	--
Other animals	394,637	139,135	9,980	831	1,743	10.9
Crow	85,471	23,088	--	--	--	10.4
Woodchuck	52,042	25,589	--	--	--	11.5
Raccoon	240,960	83,231	9,980	831	1,743	11.0
Fox	51,630	10,123	--	--	--	9.2
Coyote	31,306	6,750	--	--	--	10.3
Alaska fur bearers	--	--	--	--	--	--
Other	148,142	59,735	13,536	7,314	--	11.8
Bow hunters	310,639	108,645	7,257	--	--	10.8
Muzzle loader hunters	186,133	81,526	6,008	--	--	11.0
Pistol hunters	197,578	77,905	3,289	1,855	--	11.1

[a] Introduction to hunting in general, not a particular species, game type, or using special weapons.

[b] U.S. Fish and Wildlife Service Regions. States include: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee. See Figure 1 for a map of regions.

[c] Hunter segments defined by type of game, species hunted, and special weapon hunted. Groups are not mutually exclusive in that a hunter could appear in and be counted in more than one group.

[d] Dashes indicate that no person in the sample reported information on this item.

Table 74. Years of hunting[a] experience, Region 4[b] hunter groups, 1980.

Hunter segment[c]	Years hunting[d] 1-9	10-19	20-98	Average years[d]
	--------number of hunters-------			
Big game	593,544	826,365	1,135,805	19.8
Deer	584,013	813,133	1,113,914	19.8
Elk	533	2,416	14,344	30.1
Antelope	--	--	1,194	35.0
Moose	--	--	--	--
Bear	4,175	23,682	29,417	20.6
Turkey	51,588	93,448	174,674	23.3
Mountain goat	--	--	--	--
Mountain sheep	--	--	--	--
Alaska big game	--	843	--	10.9
Hawaii big game	--	--	--	--
Small game	783,222	916,551	1,345,344	20.2
Rabbit	492,495	584,148	722,123	18.9
Quail	247,828	325,648	494,403	20.9
Grouse	8,562	26,423	45,224	23.0
Chuckar	1,064	1,516	14,718	44.9
Squirrel	617,476	724,946	972,682	19.6
Pheasant	11,217	11,966	39,232	30.3
Alaska small game	--	--	--	--
Hawaii small game	--	--	--	--
Migratory birds	360,659	520,877	595,668	18.8
Geese	19,453	36,179	47,845	18.9
Duck	128,388	224,024	242,857	18.6
Coot, rail	8,501	8,249	15,832	17.2
Woodcock	9,429	34,630	27,847	18.2
Dove	291,222	429,295	464,830	18.5
Pigeon	--	--	1,524	32.0
Alaska migratory birds	--	--	--	--
Hawaii migratory birds	--	--	--	--
Other animals	148,682	174,756	214,821	18.6
Crow	27,713	33,439	43,364	17.4
Woodchuck	14,424	30,052	33,155	19.8
Raccoon	92,543	112,859	130,919	18.6
Fox	12,030	27,964	18,159	18.0
Coyote	5,679	13,894	18,483	19.7
Alaska fur bearers	--	--	--	--
Other	84,805	70,294	73,628	17.4
Bow hunters	86,372	188,502	151,667	17.3
Muzzle loader hunters	34,568	86,704	146,907	21.7
Pistol hunters	76,724	94,171	109,732	18.4

[a] Years spent hunting in general, not hunting a particular species, game type, or using special weapons.

[b] U.S. Fish and Wildlife Service Regions. States include: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee. See Figure 1 for a map of regions.

[c] Hunter segments defined by type of game, species hunted, and special weapon hunted. Groups are not mutually exclusive in that a hunter could appear in and be counted in more than one group.

[d] Dashes indicate that no person in the sample reported information on this item.

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Table 75. Most important reason for hunting[a] given by Region 4[b] hunter groups, 1980.

Hunter segments[c]	Most important reason[d] Obtain meat	Problem animals	Friends family	Sport/ recr.	Close to nature	Obtain trophy	Other
	Number of hunters						
Big game hunters	578,628	8,815	219,371	1,518,114	188,240	50,208	9,123
Deer	567,386	8,815	213,516	1,492,597	187,064	49,344	9,123
Elk	3,976	--	--	12,841	476	--	--
Antelope	--	--	--	--	--	1,194	--
Moose	--	--	--	--	--	--	--
Bear	17,929	--	883	33,633	2,782	819	1,228
Turkey	69,818	1,742	20,671	194,478	27,339	4,434	1,228
Mountain goat	--	--	--	--	--	--	--
Mountain sheep	--	--	--	--	--	--	--
Alaska big game	--	--	--	843	--	--	--
Hawaii big game	--	--	--	--	--	--	--
Small game hunters	709,956	22,166	262,204	1,775,649	249,457	32,372	13,183
Rabbit	448,996	13,780	139,874	1,029,329	155,626	17,924	9,004
Quail	200,627	11,844	90,136	647,282	109,851	9,132	8,126
Grouse	5,740		6,618	54,786	8,574	3,263	1,228
Chuckar	1,064	--	--	16,234	--	--	--
Squirrel	556,821	16,987	175,794	1,336,245	206,007	28,884	7,233
Pheasant	6,515	735	7,362	46,552	1,251	--	--
Alaska small game	--	--	--	--	--	--	--
Hawaii small game	--	--	--	--	--	--	--
Migratory bird hunters	282,619	5,038	131,051	906,264	134,939	19,595	1,615
Geese	20,021	735	4,927	68,991	5,442	1,586	--
Duck	124,928	1,272	39,580	383,703	40,340	6,923	617
Coot, rail	6,508	735	1,817	19,626	894	1,985	--
Woodcock	13,937	--	2,330	45,900	8,546	1,193	--
Dove	219,628	2,549	112,254	718,660	119,432	17,570	1,615
Pigeon	--	--	--	1,524	--	--	--
Alaska birds	--	--	--	--	--	--	--
Hawaii birds	--	--	--	--	--	--	--
Other animal hunters	114,025	17,244	33,045	319,486	51,968	6,308	5,268
Crow	21,311	1,616	1,893	64,696	18,251	792	--
Woodchuck	16,555	6,721	2,081	35,877	12,745	2,945	707
Raccoon	74,147	7,255	21,777	209,309	19,967	1,607	4,470
Fox	16,116	1,652	2,624	37,129	2,247	1,985	--
Coyote	10,413	--	1,472	23,698	1,910	563	--
Alaska fur bearers	--	--	--	--	--	--	--
Other	59,820	3,221	30,676	108,141	22,523	2,779	798
Bow hunters	96,441	1,814	20,756	237,380	55,809	14,341	--
Muzzle loader hunters	65,764	3,084	26,558	152,178	17,523	5,861	1,796
Pistol hunters	65,156	5,684	16,118	168,001	20,041	4,746	881

[a] Reasons for hunting in general, not hunting a particular species, game type or using special weapons.

[b] U.S. Fish and Wildlife Service Regions. States include: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee. See Figure 1 for a map of regions.

[c] Hunter segments defined by type of game, species hunted, and special weapon hunters. Groups are not mutually exclusive in that a hunter could appear in and be counted in more than one group.

[d] Dashes indicate that no person in the sample reported information on this item.

Table 76. Second most important reason for hunting[a] given by Region 4[b] hunter groups, 1980.

Hunter segments[c]	Obtain meat	Problem animals	Friends family	Sport/ recr.	Close to nature	Obtain trophy	Other
	Second most important reason[d]						
	Number of hunters						
Big game hunters	644,115	20,879	551,461	573,280	490,312	192,718	25,198
Deer	640,911	20,167	536,462	565,816	480,383	189,641	23,273
Elk	4,147	--	8,976	476	1,667	2,027	--
Antelope	1,194	--	--	--	--	--	--
Moose	--	--	--	--	--	--	--
Bear	7,952	--	10,501	10,621	22,147	2,189	
Turkey	70,436	4,513	66,825	53,158	80,240	33,470	2,894
Mountain goat	--	--	--	--	--	--	--
Mountain sheep	--	--	--	--	--	--	--
Alaska big game	--	--	843	--	--	--	--
Hawaii big game	--	--	--	--	--	--	--
Small game hunters	771,366	43,527	633,563	738,448	589,415	141,693	28,525
Rabbit	478,401	31,835	350,170	450,201	348,397	83,934	12,040
Quail	288,225	19,522	228,551	265,932	190,631	54,112	2,881
Grouse	15,654	--	21,029	7,354	30,307	--	--
Chuckar	11,335	--	3,565	--	1,334	1,064	--
Squirrel	604,018	25,029	471,613	565,286	441,635	118,395	27,388
Pheasant	15,400	--	14,194	8,256	18,471	1,878	--
Alaska small game	--	--	--	--	--	--	--
Hawaii small game	--	--	--	--	--	--	--
Migratory bird hunters	345,580	27,973	318,317	356,842	301,265	85,464	9,679
Geese	22,836	--	25,349	21,847	26,241	3,748	--
Duck	133,499	8,051	139,371	130,970	132,848	42,078	1,673
Coot, rail	6,793	--	1,543	9,613	9,909	2,180	--
Woodcock	17,038	905	9,059	20,248	19,281	4,758	--
Dove	279,720	25,751	239,116	293,452	242,365	73,653	8,006
Pigeon	1,524	--	--	--	--	--	--
Alaska birds	--	--	--	--	--	--	--
Hawaii birds	--	--	--	--	--	--	--
Other animal hunters	119,550	30,344	106,658	120,553	97,935	32,483	14,325
Crow	20,343	4,140	22,609	19,188	21,857	12,207	2,643
Woodchuck	11,280	13,812	16,073	11,962	19,010	3,189	--
Raccoon	88,661	7,577	59,763	73,594	67,826	18,964	9,535
Fox	12,979	1,909	13,032	11,021	13,289	3,092	3,196
Coyote	10,558	2,913	6,839	4,635	8,987	903	2,147
Alaska fur bearers	--	--	--	--	--	--	--
Other	42,980	10,197	43,688	59,343	44,411	13,422	1,285
Bow hunters	113,908	8,809	70,653	96,482	80,292	39,280	2,643
Muzzle loader hunters	44,000	292	43,059	53,586	95,257	22,159	8,042
Pistol hunters	66,757	4,263	63,600	60,844	64,529	10,341	5,596

[a] Reasons for hunting in general, not hunting a particular species, game type or using special weapons.

[b] U.S. Fish and Wildlife Service Regions. States include: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee. See Figure 1 for a map of regions.

[c] Hunter segments defined by type of game, species hunted, and special weapon hunted. Groups are not mutually exclusive in that a hunter could appear in and be counted in more than one group.

[d] Dashes indicate that no person in the sample reported information on this time.

Table 77. Days of hunting on public land by Region 4[a] hunter groups defined by type of game, 1980.

Land ownership	Hunter segment[b] Big game	Small game	Migratory birds	Other animals[c]
Federally owned	5,282,506	2,259,795	441,952	545,319
State owned	3,314,526	1,616,293	644,138	513,391
Locally owned	2,739,825	2,711,745	843,117	606,578
Unknown ownership	880,405	559,736	285,565	304,460
Total days on public land	12,217,262	7,147,569	2,214,772	1,969,748

[a] U.S. Fish and Wildlife Service Regions. States include: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee. See Figure 1 for a map of regions.

[b] Hunter segments defined by type of game hunted. Groups are not mutually exclusive in that a hunter could appear in and be counted in more than one group.

[c] Includes crow, woodchuck, raccoon, fox, coyote, and others.

Table 78. Expenditures made by Region 4[a] hunter groups defined by type of game, 1980.

Hunter segment[b]	Expenses (thousands of dollars)		
	Travel[c]	Equipment	Access related[d]
Big game	359,618	258,943	15,009
Small game	176,651	158,723	2,492
Migratory birds	79,628	57,470	3,480
Other animals[e]	37,514	30,851	1,299

[a] U.S. Fish and Wildlife Service Regions. States include: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee. See Figure 1 for a map of regions.

[b] Hunter segments defined by type of game hunted. Groups are not mutually exclusive in that a hunter could appear and be counted in more than one group.

[c] Includes food, lodging, and transportation costs.

[d] Includes guide fees, pack trip or package fees, and public and private land use or access fees.

[e] Includes crow, woodchuck, raccoon, fox, coyote, and others.

Table 79. Hunters and days of participation in regions nation-wide, Region 4[a] hunter groups defined by species hunted, 1980.

	Region 1			Region 2			Region 3		
	Number of hunters[c]	Days[c]		Number of hunters[c]	Days[c]		Number of hunters[c]	Days[c]	
Hunter segment[b]		Total	Mean		Total	Mean		Total	Mean
Deer	912	2,736	3	18,367	80,783	4	8,291	39,297	4
Elk	--	--	--	--	--	--	--	--	--
Antelope	--	--	--	--	--	--	--	--	--
Moose	--	--	--	--	--	--	--	--	--
Bear	--	--	--	--	--	--	--	--	--
Turkey	--	--	--	2,018	15,511	7	531	5,844	11
Mountqin goat	--	--	--	--	--	--	--	--	--
Mountain sheep	--	--	--	--	--	--	--	--	--
Alaska big game	--	--	--	--	--	--	--	--	--
Hawaii big game	--	--	--	--	--	--	--	--	--
Rabbit	1,980	1,980	1	5,039	17,483	2	10,410	90,300	8
Quail	3,336	20,016	6	18,052	81,749	4	12,201	31,808	2
Grouse	--	--	--	--	--	--	3,636	24,123	6
Chuckar	--	--	--	--	--	--	8,463	16,927	2
Squirrel	--	--	--	4,290	114,112	26	8,606	57,989	6
Pheasant	--	--	--	--	--	--	18,100	64,106	3
Alaska small game	--	--	--	--	--	--	--	--	--
Hawaii small game	--	--	--	--	--	--	--	--	--
Geese	--	--	--	2,629	7,887	3	2,686	5,373	2
Duck	--	--	--	6,875	17,824	2	1,026	2,053	2
Coot, rail	--	--	--	--	--	--	--	--	--
Woodcock	--	--	--	--	--	--	--	--	--
Dove	3,773	16,403	4	8,531	43,234	5	--	--	--
Pigeon	--	--	--	--	--	--	--	--	--
Alaska migratory birds	--	--	--	--	--	--	--	--	--
Hawaii migratory birds	--	--	--	--	--	--	--	--	--
Crow	--	--	--	--	--	--	292	585	2
Woodchuck	--	--	--	--	--	--	--	--	--
Raccoon	--	--	--	903	6,321	7	6,561	54,953	8
Fox	--	--	--	903	6,321	7	292	585	2
Coyote	3,336	40,032	12	3,392	11,300	3	531	1,062	2
Alaska fur bearers	--	--	--	--	--	--	--	--	--
Other	--	--	--	3,144	17,965	5	3,668	27,894	7

Table 79. Continued.

Hunter segment[b]	Region 4			Region 5			Region 6		
	Number of hunters[c]	Days[c]		Number of hunters[c]	Days[c]		Number of hunters[c]	Days[c]	
		Total	Mean		Total	Mean		Total	Mean
Deer	2,511,470	31,510,032	12	23,771	228,978	9	14,582	77,964	5
Elk	--	--	--	--	--	--	17,293	116,365	6
Antelope	--	--	--	--	--	--	1,194	3,584	3
Moose	--	--	--	--	--	--	--	--	--
Bear	53,717	306,018	5	4,948	52,609	10	--	--	--
Turkey	313,026	2,576,543	8	8,072	127,260	15	--	--	--
Mountain goat	--	--	--	--	--	--	--	--	--
Mountain sheep	--	--	--	--	--	--	--	--	--
Alaska big game	--	--	--	--	--	--	--	--	--
Hawaii big game	--	--	--	--	--	--	--	--	--
Rabbit	1,808,117	19,417,294	10	7,285	61,029	8	4,083	15,738	3
Quail	1,046,539	12,165,354	11	4,462	38,863	8	5,698	32,933	5
Grouse	73,634	438,980	5	6,570	52,160	7	--	--	--
Chuckar	8,060	35,682	4	--	--	--	775	775	1
Squirrel	2,326,458	25,171,640	10	12,177	150,168	12	--	--	--
Pheasant	18,883	61,299	3	5,530	101,653	18	20,548	211,197	10
Alaska small game	--	--	--	--	--	--	--	--	--
Hawaii small game	--	--	--	--	--	--	--	--	--
Geese	97,757	825,997	8	2,841	10,956	3	--	--	--
Duck	600,148	5,119,064	8	3,326	11,926	3	--	--	--
Coot, rail	31,847	297,538	9	735	1,470	2	--	--	--
Woodcock	71,906	626,799	8	--	--	--	--	--	--
Dove	1,188,806	6,695,527	5	776	3,880	5	903	7,226	8
Pigeon	1,524	3,048	2	--	--	--	--	--	--
Alaska migratory birds	--	--	--	--	--	--	--	--	--
Hawaii migratory birds	--	--	--	--	--	--	--	--	--
Crow	108,470	1,047,411	9	735	5,147	7	--	--	--
Woodchuck	74,918	1,462,884	19	5,306	91,576	17	--	--	--
Raccoon	337,686	6,339,862	18	1,653	4,960	3	--	--	--
Fox	60,695	990,963	16	1,058	19,052	18	--	--	--
Coyote	29,553	341,444	11	--	--	--	2,147	6,441	3
Alaska fur bearers	--	--	--	--	--	--	--	--	--
Other	221,735	3,217,719	14	735	5,147	7	640	4,482	7

Table 79. Continued.

	Region 7[a]			Total		
	Number of hunters[c]	Days[c]		Number of hunters[c]	Days[c]	
Hunter segment[b]		Total	Mean		Total	Mean
Deer	--	--	--	2,577,393	31,947,790	12
Elk	--	--	--	17,293	116,365	7
Antelope	--	--	--	1,194	3,584	3
Moose	--	--	--	--	--	--
Bear	--	--	--	58,665	358,627	6
Turkey	--	--	--	323,647	2,725,158	8
Mountain goat	--	--	--	--	--	--
Mountain sheep	--	--	--	--	--	--
Alaska big game	843	56,481	67	843	56,481	67
Hawaii big game	--	--	--	--	--	--
Rabbit	--	--	--	1,837,918	19,603,820	11
Quail	--	--	--	1,090,288	12,370,723	11
Grouse	--	--	--	83,840	515,263	6
Chuckar	--	--	--	17,298	53,384	3
Squirrel	--	--	--	2,351,531	25,493,909	11
Pheasant	--	--	--	63,061	438,255	7
Alaska small game	--	--	--	--	--	--
Hawaii small game	--	--	--	--	--	--
Geese	--	--	--	105,913	850,213	8
Duck	--	--	--	611,375	5,150,867	8
Coot, rail	--	--	--	32,582	299,008	9
Woodcock	--	--	--	71,906	626,799	9
Dove	--	--	--	1,202,798	6,766,270	6
Pigeon	--	--	--	1,524	3,048	2
Alaska migratory birds	--	--	--	--	--	--
Hawaii migratory birds	--	--	--	--	--	--
Crow	--	--	--	109,497	1,053,143	10
Woodchuck	--	--	--	80,224	1,554,460	19
Raccoon	--	--	--	346,803	6,406,096	18
Fox	--	--	--	62,948	1,016,921	16
Coyote	--	--	--	38,959	400,279	10
Alaska fur bearers	--	--	--	--	--	--
Other	--	--	--	229,922	3,273,207	14

[a] U.S. Fish and Wildlife Service Regions. States include: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee. See Figure 1 for a map of regions.

[b] Hunter segments defined by type of game hunted. Groups are not mutually exclusive in that a hunter could appear and be counted in more than one group. Inclusion in a segment and amount of participation are based on information on hunting within the United States in hunters' five most often hunted locations.

[c] Dashes indicate that no person in the sample reported information on this item.

Table 80. Days of participation, Region 4[a] special weapon hunters, 1980.

Hunter segment[b]	Game hunted				Number of hunters
	Big game	Small game	Migratory birds	Other game[c]	
	days of participation				
Bow/arrow	3,103,316	188,238	2,188	10,349	426,541
Muzzle Loader	1,454,502	438,608	86,998	388,753	272,764
Pistol	932,037	1,523,193	42,350	601,367	280,627

[a] U.S. Fish and Wildlife Service Regions. States include: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee. See Figure 1 for a map of Regions.

[b] Hunter segments defined by type of game hunted. Groups are not mutually exclusive in that a hunter could appear and be counted in more than one group.

[c] Includes crow, woodchuck, raccoon, fox, coyote, and others.

Table 81 . Number of trips and days of participation in regions nation-wide, Region 4[a] angler groups defined by type of fishing, 1980.

Angler/segment[b]	Trip[c]	Days[c] Total	Days[c] Mean	No. of fishermen[c]
Region 1				
Great Lakes	--	--	--	--
Freshwater	205,282	223,700	1	24,743
Saltwater	109,773	115,642	1	26,159
Region 2				
Great Lakes	--	--	--	--
Freshwater	546,169	647,734	1	90,545
Saltwater	167,367	197,233	1	23,768
Region 3				
Great Lakes	557,690	784,960	1	62,482
Freshwater	722,197	1,419,978	1	170,693
Saltwater	--	--	--	--
Region 4				
Great Lakes	--	--	--	--
Freshwater	171,256,465	182,004,292	1	8,336,414
Saltwater	38,928,497	43,535,121	1	3,185,383
Region 5				
Great Lakes	7,794	16,870	2	5,525
Freshwater	851,663	1,486,637	1	140,661
Saltwater	308,393	435,851	1	64,694
Region 6				
Great Lakes	--	--	--	--
Freshwater	139,628	275,881	1	49,237
Saltwater	--	--	--	--
Region 7				
Great Lakes	--	--	--	--
Freshwater	6,409	29,833	4	6,409
Saltwater	47,678	68,754	1	6,369
Total				
Great Lakes	565,000			68,000
Freshwater	173,728,000			8,819,000
Saltwater	39,562,000			3,306,000

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[a] U.S. Fish and Wildlife Service Regions. States include: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee. See Figure 1 for a map of regions.

[b] Angler segments defined by type of fishing. Groups are not mutually exclusive in that a fisherman could appear and be counted in more than one group. Inclusion in a segment and amount of participation are based on information on fishing within the United States and in anglers' five most often fished locations.

[c] Dashes indicate that no person in the sample reported information on this item.

Table B2. Days of participation in regions nation-wide, Region 4[a] angler groups defined by species fished, 1980.

Angler segment[b]	Region 1			Region 2			Region 3			Region 4		
	Number of fishermen[c]	Days[c]		Number of fishermen[c]	Days[c]		Number of fishermen[c]	Days[c]		Number of fishermen[c]	Days[c]	
		Total	Mean		Total	Mean		Total	Mean		Total	Mean
Bass	5,952	135,162	22	62,379	428,893	6	76,865	868,204	11	4,938,368	104,013,648	21
Panfish	3,805	38,168	10	46,266	323,356	6	93,641	1,983,749	21	5,418,204	103,630,458	19
Catfish	4,404	84,471	19	24,298	259,065	10	48,599	529,290	10	3,714,718	69,455,046	18
Walleye	--	--	--	3,182	23,183	7	29,989	227,850	7	229,779	3,853,393	16
Pike	--	--	--	3,182	23,183	7	46,714	247,106	5	137,429	3,129,960	22
Trout	11,204	162,044	14	5,464	8,291	1	30,650	317,505	10	593,334	8,364,999	14
Salmon	5,347	20,027	3	1,606	6,427	4	7,703	29,227	3	11,161	121,804	10
Rockfish	1,145	3,589	3	6,756	69,452	10	--	--	--	733,313	12,700,961	17

Angler segment[b]	Region 5			Region 6			Region 7			Total		
	Number of fishermen[c]	Days[c]		Number of fishermen[c]	Days[c]		Number of fishermen[c]	Days[c]		Number of fishermen[c]	Days[c]	
		Total	Mean		Total	Mean		Total	Mean		Total	Mean
Bass	83,420	811,307	9	7,237	55,368	7	--	--	--	5,174,222	106,312,582	20
Panfish	74,441	598,824	8	4,457	21,091	4	--	--	--	5,640,814	106,596,646	19
Catfish	24,418	276,825	11	1,814	31,107	17	--	--	--	3,818,251	70,635,800	18
Walleye	3,305	25,613	7	--	--	--	--	--	--	266,255	4,130,039	15
Pike	17,306	67,494	3	941	2,824	3	--	--	--	205,572	3,470,567	17
Trout	34,171	364,416	10	28,555	188,082	6	7,252	19,189	2	710,630	9,424,526	13
Salmon	4,423	5,591	1	--	--	--	7,252	91,293	12	37,492	274,369	7
Rockfish	18,948	294,212	15	--	--	--	--	--	--	760,162	13,068,214	17

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[a] U.S. Fish and Wildlife Service Regions. States include: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee. See Figure 1 for a map of regions.

[b] Angler segments defined by species fished. Includes both freshwater and saltwater species. Groups are not mutually exclusive in that a fisherman could appear and be counted in more than one group. Inclusion in a segment and amount of participation are based on information on fishing within the United States and in anglers' five most often fished locations.

[c] Dashes indicate that no person in the sample reported information on this item.

Table 83. Age of introduction[a] and years of fishing[b] for Region 4[c] angler groups defined by type of fishing and fish species, 1980.

	Age of introduction[d]						Years fishing[d]			
Angler segment[e]	01-12	13-19	20-29	30-39	40-98	Ave. age	01-09	10-19	20-98	Ave. years
	---number of fishermen---						---number of fishermen---			
Great Lakes	50,499	9,882	2,955	1,415	3,256	11.0	11,756	12,235	44,016	25.9
Freshwater	6,861,704	980,380	379,900	140,767	151,718	10.1	1,362,383	2,458,219	4,658,750	23.8
Saltwater	2,714,673	336,231	100,451	74,601	75,687	10.0	516,101	960,553	1,832,457	24.1
Bass	5,523,502	599,711	196,829	64,921	91,689	9.2	766,137	1,978,511	3,714,325	24.1
Pan fish	5,495,749	718,123	300,797	101,363	127,161	9.9	791,216	1,853,228	4,085,867	25.7
Catfish	3,580,717	474,568	148,721	56,774	65,817	9.6	583,673	1,382,241	2,350,843	23.8
Walleye	257,158	31,107	1,093	2,501	3,607	8.5	17,256	60,898	217,312	27.9
Pike	183,634	35,634	1,908	--	5,272	9.5	20,690	59,754	144,899	24.6
Trout	697,412	74,936	25,398	12,697	4,409	9.1	109,587	284,758	416,464	23.5
Salmon	36,634	485	--	--	3,256	10.2	--	14,168	26,207	30.5
Rock fish	832,619	96,977	16,026	13,280	9,190	8.6	99,811	375,850	488,388	22.8

[a] Introduction to fishing in general, not fishing a particular species or type of waters.

[b] Years spent fishing in general, not fishing a particular species or type of waters.

[c] U.S. Fish and Wildlife Service Regions. States include: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee. See Figure 1 for a map of regions.

[d] Dashes indicate that no person in the sample reported information on this item.

[e] Angler segments defined by type of fishing and species fished. Groups are not mutually exclusive in that an angler could appear and be counted in more than one group.

Table 84. Locations most frequently fished by Region 4[a] angler groups defined by type of fishing, 1980.

Angler segment[b]	Freshwater				Saltwater		
	Large Res.	Small Res.	Lakes	Rivers/Str.	Deep sea	Surf/Shore	Sound
	Number of fishermen						
Freshwater	3,419,668	2,445,817	2,839,889	8,315,812			
Saltwater					1,132,743	1,976,218	1,398,759

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[a] U.S. Fish and Wildlife Service Regions. States include: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee. See Figure 1 for a map of regions.

[b] Angler segments defined by type of fishing and species fished. Groups are not mutually exclusive in that an angler could appear in and be counted in more than one group.

Table 85 . Expenditures, Region 4[a] angler groups defined by type of fishing, 1980.

Angler segment[b]	Expenditures (in thousands of dollars)		
	Travel[c]	Equipment	Access related[d]
Great Lakes	11,407	NA	68
Freshwater	1,112,577	374,661	37,750
Saltwater	451,017	164,487	32,772

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[a] U.S. Fish and Wildlife Service Regions. States include: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee. See Figure 1 for a map of regions.

[b] Angler segments defined by type of fishing. Groups are not mutually exclusive in that an angler could appear in and be counted in more than one group.

[c] Includes food, lodging, and transportation costs.

[d] Includes guide fees, pack trip or package fees, and public and private land use or access fees.

Table 86. Days of participation, Region 4[a] specialty fishing anglers, 1980.

Angler segment[b]	In-state	Out-of-state	Total days	Number of anglers
Spear	336,906	139,361	476,267	57,000
Net	1,457,417	204,175	1,661,592	236,000
Ice	21,204	4,859	26,063	20,000
Bow	153,850	125,488	279,338	60,000
Gigging for frogs	2,208,401	119,557	2,327,958	391,000

[a] U.S. Fish and Wildlife Service Regions. States include: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee. See Figure 1 for a map of regions.

[b] Angler segments defined by type of specialty fishing. Groups are not mutually exclusive in that an angler could appear and be counted in more than one group.

Table 87.·Age of introduction[a] and years of fishing[b] for Region 4[c] angler groups defined by specialty fishing, 1980.

	Age of introduction[e]						Years of fishing[e]			
Angler segment[d]	01-12	13-19	20-29	30-39	40-98	Ave age	01-09	10-19	20-98	Ave. years
	------------------number of anglers--------------------						--------number of anglers------			
Spear	53,288	2,096	1,604	--	--	6.6	5,197	20,143	31,111	22.1
Net	219,429	13,517	2,047	794	776	7.9	32,979	98,892	104,155	19.2
Ice	19,911	--	--	--	--	5.2	--	13,833	5,541	22.2
Bow	56,505	3,826	--	--	--	7.2	3,374	34,807	21,613	19.5
Gigging for frogs	368,159	15,951	3,549	1,319	2,085	7.8	40,699	197,199	151,291	18.9

[a] Introduction to fishing in general, not fishing a particular species or type of waters.

[b] Years spent fishing in general, not fishing a particular species or type of waters.

[c] U.S. Fish and Wildlife Service Regions. States include: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee. See Figure 1 for a map of regions.

[d] Angler segments defined by type of specialty fishing. Groups are not mutually exclusive in that an angler could appear and be counted in more than one group.

[e] Dashes indicate that no person in the sample reported information on this item.

Appendix C: Louisiana Data

Table 200. Selected characteristics, Louisiana sportsmen and nonsportsmen, 1980.

Characteristic	Sportsmen[a] (percent)	Nonsportsmen[b] (percent)
Marital Status[c]		
Married	67.2	51.8
Widowed	1.9	10.7
Divorced	4.7	5.7
Separated	2.3	4.1
Never Married	24.0	27.7
Sex[d]		
Male	70.9	36.1
Female	29.1	63.9
Education[d]		
None	.5	1.6
Kindergarten	.2	.9
Elementary	26.0	30.6
High school	47.4	45.4
College	25.8	21.5
Average age[d]	32.3 years	35.7 years
Population growing up[e]		
Large urban	11.8	17.6
Medium urban	18.1	15.7
Small city	14.5	12.4
Small town	17.9	19.1
Rural	37.9	35.2
Employed[e,f]		
Yes	66.8	47.0
No	33.2	53.0
Race[d]		
White	84.3	63.6
Black	15.1	35.9
American Indian, Aleut, Eskimo	.2	.1
Asian, Pacific Islander	.3	.2
Other	.1	.2
Site of residence[d]		
Urban	55.2	67.2
Rural	44.8	32.8
Average household size[d]	3.8 persons	3.9 persons

[a] U.S. population age 6 years old and older who hunted or fished in 1980.

[b] U.S. population age 6 years old and older who did no hunting or fishing in 1980.

[c] Persons 14 years old and older.

[d] Persons 6 years old and older.

[e] Persons 16 years old and older.

[f] Defined as having a job or owning a business. Does not include persons who are retired, going to school, or keeping house.

Table 201. Participants, Louisiana hunter groups, 1980.

Groups	Total	Percent of state population[a]	Percent of state sportsmen[a]
Hunters by --			
Type of game[b]:			
Big game	259,500	8.5	25.4
Small game	384,900	12.6	37.5
Migratory birds	195,600	6.4	19.1
Other animals	50,200	1.6	4.9
Special weapon used:			
Bow and arrow	28,700	.9	2.8
Muzzle loader[c]	10,700	.4	1.0
Species pursued[d]			
Deer	257,500	8.4	25.1
Turkey[e]	15,300	.4	1.5
Rabbits	250,100	8.2	24.4
Quail	43,800	1.4	4.3
Geese	26,200	.9	2.7
Ducks	157,000	5.1	15.3

[a] Population 16 years old and older. Source: 1980 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation, U.S. Dept. of the Interior, Fish and Wildlife Service and U.S. Dept. of Commerce, Bureau of the Census. U.S. Gov't. Printing Office, 1982.

[b] Includes Louisiana residents who hunted in state of residence.

[c] Sample size of 10 or less.

[d] Includes Louisiana residents who hunted for species in state of residence in at least one of hunters' five most often hunted places.

[e] Sample size less than 20 but greater than 10.

Table 202.Age of introduction to hunting[a], Louisiana hunters grouped by type of game hunted, 1980.

Beginning age	Hunters[b]							
	Big game		Small game		Migratory birds		Other game[c]	
	Number[d]	Percent[d]	Number[d]	Percent[d]	Number[d]	Percent[d]	Number[d]	Percent[d]
1-5 years	14,315	5.5	20,232	5.8	13,683	7.0	6,838	13.4
6-8 years	58,072	22.5	74,220	19.3	47,885	24.4	16,900	33.2
9-11 years	48,540	18.8	83,869	21.8	38,381	19.6	11,064	21.8
12-15 years	101,349	39.3	156,682	40.7	68,974	35.2	10,822	21.3
16-17 years	17,634	6.8	27,024	7.0	16,493	8.4	5,220	10.3
18-24 years	10,310	4.0	14,838	3.9	7,903	4.0	--	--
25-34 years	3,946	1.5	4,547	1.2	1,184	.6	--	--
35-44 years	2,642	1.0	1,490	.4	1,721	.9	--	--
45-54 years	1,235	.5	1,205	.3	--	--	--	--
55-64 years	--	--	1,235	.3	--	--	--	--
65+ years	--	--	--	--	--	--	--	--

[a] Introduction to hunting in general, not hunting a particular species, game type, or using special weapons.

[b] Hunter segments defined by type of game hunted. Groups are not mutually exclusive in that a hunter could appear in more than one group. Includes Louisiana residents who hunted in-state.

[c] Other animals include crow, woodchuck, raccoon, fox, coyote, and other animals.

[d] Dashes indicate that no person in the sample reported information on this item.

Table 203. Years of hunting[a], Louisiana hunters grouped by type of game hunted, 1980.

Years of participation	Hunters[b]							
	Big game		Small game		Migratory birds		Other game[c]	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
0-2 years	7,267	2.9	21,117	5.5	1,107	.6	1,106	2.3
3-5 years	23,311	9.2	39,606	10.4	18,478	9.5	2,079	4.3
6-8 years	24,161	9.5	28,453	7.5	17,288	8.9	7,981	16.4
9-11 years	25,097	9.9	30,715	8.1	17,251	8.9	7,900	16.2
12-15 years	32,043	12.6	44,529	11.7	22,844	11.8	4,599	9.5
16-17 years	25,319	10.0	35,700	9.4	22,953	11.9	4,120	8.5
18-24 years	39.083	15.4	45,532	12.0	28,996	15.0	8,199	16.9
25-34 years	40,812	16.0	61,510	16.2	32,136	16.6	6,745	13.9
35-44 years	18,139	7.1	35,895	9.5	12,585	6.5	2,658	5.5
45-54 years	16,107	6.3	27,437	7.2	17,667	9.1	2,696	5.5
55-64 years	3,033	1.2	7,991	2.1	2,356	1.2	550	1.1
65+ years	--[d]	--[d]	972	.3	--[d]	--[d]	--[d]	--[d]

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[a] Years of participation in hunting in general, not hunting a particular species, game type, or using special weapons.

[b] Hunter segments defined by type of game hunted. Groups are not mutually exclusive in that a hunter could appear in more than one group. Includes Louisiana residents who hunted in-state.

[c] Other animals include crow, woodchuck, raccoon, fox, coyote, and other animals.

[d] Dashes indicate that no person in the sample reported information on this item.

Table 204. Membership in organizations, Louisiana hunters grouped by type of game hunted, 1980.

	Hunters[a]							
	Big game		Small game		Migratory birds		Other game[c]	
Organization groups[b]	Number	Percent[d]	Number	Percent[d]	Number	Percent[d]	Number	Percent[d]
A								
B	12,143	4.7	11,237	2.9	7,693	3.9	2,080	4.1
C	23,521	9.0	26,238	6.8	31,187	15.8	2,099	4.1
D	16,271	6.2	17,844	4.6	18,388	9.3	2,165	4.3
E	32,653	12.5	32,102	8.3	29,863	15.2	4,254	8.4
F	7,703	3.0	6,001	1.6	4,705	2.4	906	1.8
No organization	217,248	83.4	338,163	87.6	150,968	76.7	45,695	89.9

[a] Hunter segments defined by type of game hunted. Groups are not mutually exclusive in that a hunter could appear in mroe than one group. Includes Louisiana residents who hunted in-state.

[b] Groups include: A-Defenders of Wildlife, Fund for Animals, Friends of Animals; B-Trout Unlimited, B.A.S.S.; C-Ducks Unlimited, Nat'l. Rifle Association, Safari Club International; D-American Museum of Natural History, Nat'l. Geographic Society, Nature Conservancy, Sierra Club, Wilderness Society; E-American Birding Association, Izaak Walton League, Nat'l. Audubon Society, Nat'l. Wildlife Federation, The Wildlife Society, World Wildlife Fund; and F-Other organizations.

[c] Other animals include crow, woodchuck, raccoon, fox, coyote, and others.

[d] Percents may total more than 100 due to membership in more than one organization.

Table 205. Reasons for hunting[a], Louisiana hunters grouped by type of game hunted, 1980.

Most important and second most important reasons	Hunters[b]							
	Big game		Small game		Migratory birds		Other game[c]	
	Number[d]	Percent[d]	Number[d]	Percent[d]	Number[d]	Percent[d]	Number[d]	Percent[d]
Most important:								
Obtain meat	82,818	32.1	123,504	32.2	42,934	22.2	16,894	32.8
Problem animals	--	--	834	.2	--	--	--	--
Be with family, friends	15,835	6.1	25,903	6.8	17,764	9.2	2,977	5.9
Sport, recreation	133,200	51.6	205,639	53.6	114,775	59.3	24,566	48.3
Be close to nature	23,224	9.0	26,251	6.8	16,765	8.7	6,608	13.0
Trophy	2,967	1.1	609	.2	1,193	.6	--	--
Other reasons	--	--	630	.2	--	--	--	--
Second most important:								
Obtain meat	62,771	24.3	92,309	24.0	36,572	18.7	10,507	20.7
Problem animals	4,536	1.8	4,536	1.2	2,837	1.5	2,553	5.0
Be with family, friends	48,004	18.6	72,550	18.9	39,764	20.4	8,809	17.3
Sport, recreation	77,375	30.0	108,902	28.4	52,900	27.1	13,840	27.2
Be close to nature	36,757	14.2	64,949	16.9	48,500	24.8	9,956	19.6
Trophy	1,811	.7	22,996	6.0	7,857	4.0	2,794	5.5
Other reasons	3,188	1.2	5,602	1.5	4,393	2.3	--	--
No reason	--	--	11,796	3.1	2,383	1.2	2,383	4.7

[a] Reasons for hunting in general, not hunting a particular species, game type, or using special weapons.

[b] Hunter segments defined by type of game hunted. Groups are not mutually exclusive in that a hunter could appear in more than one group. Includes Louisiana residents who hunted in-state.

[c] Other animals include crow, woodchuck, raccoon, fox, coyote, and other animals.

[d] Dashes indicate that no person in the sample reported information on this item.

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Table 206.Days of hunting on public land[a], Louisiana hunters grouped by type of game hunted, 1980.

Public land ownership	Days by hunter segments[b]							
	Big game		Small game		Migratory birds		Other game[c]	
	Total	Mean	Total	Mean	Total	Mean	Total	Mean
Federal land	198,045	7.6	123,213	6.2	27,494	4.9	5,227	3.0
State wildlife area refuge	318,855	6.3	325,393	7.9	198,365	7.9	22,942	14.9
Other state-owned areas	27,435	4.5	24,163	10.0	7,155	8.0	--[d]	--[d]
Locally owned	245,209	10.6	385,595	9.4	150,842	7.1	117,916	29.0
Unknown public ownership	94,414	13.6	118,518	8.1	192,958	21.0	179,97.	31.4

[a] Only hunters who indicated they hunted on public land were included here.

[b] Hunter segments defined by type of game hunted. Groups are not mutually exclusive in that a hunter could appear in more than one group. Includes Louisiana residents who hunted in-state.

[c] Other animals include crow, woodchuck, raccoon, fox, coyote, and others.

[d] Dashes indicate that no person in the sample reported information on this item.

Table 207.Hunting participation, by state wildlife management regions[a], Louisiana hunters grouped by type of game, 1980

Hunters[b]	Days scouting		Days hunting[d]		Hunting trips[d]		No. of 1-day trips	Average miles from home[c]	Average hours per day hunting
	Total	Mean	Total	Mean	Total	Mean			
Region 221									
Big game	307,370	5.3	1,931,625	13.4	1,746,501	11.9	1,543,544	44	6.0
Small game	164,191	4.3	2,618,982	15.9	2,313,795	14.1	2,169,319	22	4.1
Migratory birds	42,811	2.9	467,900	7.4	441,502	7.0	383,249	36	4.2
Other animals[e]	42,977	6.4	894,794	30.4	890,576	30.2	902,894	25	3.6
Region 222									
Big game	158,418	4.8	673,829	10.2	494,801	7.5	392,619	45	6.3
Small game	123,653	4.6	1,076,264	11.6	973,436	10.5	888,276	34	4.3
Migratory birds	30,413	2.7	476,899	7.9	429,275	7.1	333,234	19	4.5
Other animals[e]	6,961	3.7	113,415	12.1	113,415	12.1	112,784	12	4.1
Region 223									
Big game	1,812	2.0	3,946	1.8	3,946	1.8	2,717	49	3.3
Small game	22,361	25.0	83,862	18.2	160,294	34.7	159,107	40	5.4
Migratory birds	29,124	6.1	300,685	9.6	238,935	7.7	139,063	115	4.4
Other animals[e]	--[f]	--[f]	14,482	8.0	14,482	8.0	13,587	2	2.5
Region 224									
Big game	65,578	7.7	370,278	10.9	227,745	6.6	153,711	49	6.3
Small game	155,169	13.2	746,542	13.8	679,608	12.6	633,576	23	4.3
Migratory birds	50,913	12.7	228,555	9.0	223,317	8.8	215,748	24	3.9
Other animals[e]	12,689	4.0	50,579	6.2	50,579	6.2	48,360	11	4.4
Region 225									
Big game	89,411	5.7	373,388	11.3	304,441	9.2	225,842	53	5.7
Small game	31,663	2.6	856,701	12.6	814,618	12.0	752,679	29	4.4
Migratory birds	3,458	2.0	71,300	6.1	62,500	5.4	50,753	37	3.6
Other animals[e]	--[f]	--[f]	18,306	6.5	18,306	6.5	17,560	16	7.3
Region 226									
Big game	3,933	1.9	39,800	6.1	26,539	4.1	16,715	50	5.3
Small game	78,488	10.7	495,526	12.6	426,800	10.9	374,726	54	4.7
Migratory birds	26,213	3.6	260,800	7.3	211,448	6.3	182,580	56	4.7
Other animals[e]	9,033	10.0	83,124	45.8	83,125	45.8	83,124	1	1.0

[a] Regional data may be based on a small number of observations. See Figure 4 for a map of state regions.

[b] Hunter segments defined by type of game. Groups are not mutually exclusive in that a hunter could appear in more than one group. Inclusion in a segment is based on resident in-state hunting in at least one of hunters' five most often hunted locations.

[c] Miles one-way from home to usual hunting place.

[d] Numbers differ slightly from those in the 1980 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation--Louisiana because of rounding.

[e] Other animals include crow, woodchuck, racoon, fox, coyote, and others.

[f] Dashes indicate that no person in the sample reported information on this item.

Table 208. Travel-related expenses, Louisiana hunters grouped by type of game hunted, 1980.

(Totals in thousands of dollars)

	Hunter groups[a] and dollars spent							
	Big game		Small game		Migratory birds		Other game[b]	
Expenditure types	Total amount	Ave. per hunter	Total amount	Ave. per hunter	Total amount	Ave. per hunter	Total amount	Ave. per hunter
Food	20,261	68.94	14,227	35.33	6,983	34.60	1,254	23.32
Lodging	1,835	6.24	392	.97	329	1.63	181	3.36
Public transportation	1,303	4.43	16	.04	--[c]	--[c]	13	.24
Private transportation	18,841	64.10	17,633	43.79	8,474	41.99	3,015	56.04
Total travel-related expenses	41,600		29,700		15,500		4,463	
In-state travel-related expenses	31,602	107.52	26,500	65.80	13,842	68.58	3,786	70.37

[a] Hunter segments defined by type of game hunted. Groups are not mutually exclusive in that a hunter could appear in more than one group. Only residents are included in these segments.

[b] Other animals include crow, woodchuck, raccoon, fox, coyote, and others.

[c] Dashes indicate that no person in the sample reported information on this item.

Table 209. Access-related expenses, Louisiana hunters grouped by type of game hunted, 1980.

(totals in thousands of dollars)

	Hunter groups[a] and dollars spent							
	Big game		Small game		Migratory birds		Other game[b]	
Expenditure types	Total amount[c]	Ave. per hunter[c]	Total amount[c]	Ave. per hunter[c]	Total amount[c]	Ave. per hunter[c]	Total amount[c]	Ave. per hunter[c]
Guide fees	--	--	--	--	149	.74	--	--
Pack trip or package fees	--	--	--	--	--	--	--	--
Public land access or use fees	81	.28	3	.01	123	.61	--	--
Private land access or use fees	641	2.18	327	.81	185	.92	271	5.04
Equipment rental	18	.06	--	--	--	--	--	--
Total access-related expenses	740		330		457		271	
In-state access-related expenses	322	1.10	64	.16	153	.76	45	.64

[a] Hunter segments defined by type of game hunted. Groups are not mutually exclusive in that a hunter could appear in more than one group. Only residents are included in these segments.

[b] Other animals include crow, woodchuck, raccoon, fox, coyote, and others.

[c] Dashes indicate that no person in the sample reported information on this item.

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Table 210. Days of participation and deer hunting satisfaction, by state wildlife mangement regions, Louisiana hunters grouped by species hunted, 1980.

Region[a]/ Hunter segment[b]	Days of hunting Total	Days of hunting Mean	Deer hunting satisfaction[c]
Region 221			
Deer hunters	1,957,829	13.4	5.4
Turkey hunters[d]	50,988	9.1	
Rabbit hunters	1,104,989	13.3	
Quail hunters	153,664	8.8	
Goose hunters	21,834	6.8	
Duck hunters	347,582	7.0	
Region 222			
Deer hunters	673,279	10.2	5.0
Turkey hunters[d]	6,151	3.7	
Rabbit hunters	609,438	10.2	
Quail hunters	118,635	11.4	
Goose hunters	15,803	10.0	
Duck hunters	333,414	8.4	
Region 223			
Deer hunters	3,946	1.8	7.5
Turkey hunters[d]	---[e]	---[e]	
Rabbit hunters	76,360	16.5	
Quail hunters	30,474	8.4	
Goose hunters	75,610	5.4	
Duck hunters	274,284	9.7	
Region 224			
Deer hunters	370,278	10.9	6.0
Turkey hunters[d]	1,807	2.0	
Rabbit hunters	554,024	12.1	
Quail hunters	49,380	9.2	
Goose hunters	5,864	2.9	
Duck hunters	151,760	9.4	

Table 210. Continued.

Region[a]/ Hunter Segment[b]	Days of hunting Total	Days of hunting Mean	Deer hunting satisfaction[c]
Region 225			
Deer hunters	287,828	10.2	4.8
Turkey hunters[d]	67,434	7.9	
Rabbit hunters	521,828	10.6	
Quail hunters	6,287	1.7	
Goose hunters	24,514	9.0	
Duck hunters	58,847	4.9	
Region 226			
Deer hunters	39,766	6.1	4.7
Turkey hunters[d]	---[e]	---[e]	
Rabbit hunters	476,720	13.0	
Quail hunters	163,286	22.3	
Goose hunters	54,862	4.6	
Duck hunters	226,417	7.8	

[a] Regional data may be based on a small number of observations. See Figure 4 for a map of state regions.

[b] Hunter segments defined by species hunted. Groups are not mutually exclusive in that a hunter could appear in more than one group. Inclusion in a segment is based on resident in-state hunting in at least one of hunters' five most often hunted locations.

[c] Satisfaction ranking on a scale of 1 to 10, where 1 is low and 10 is high.

[d] Sample size less than 20 but greater than 10.

[e] Dashed indicate that no person in the sample reported information on this item.

Table 211. Age of introduction to hunting[a], Louisiana hunters grouped by species hunted, 1980.

	Beginning age (years)									
	1-5		6-8		9-11		12-15		16-17	
Hunter segment[b]	Number of hunters	Percent	Number of hunters	Percent	Number of hunters	Percent	Number of hunters	Percent	Number of hunters[c]	Percent[c]
Deer hunters	14,315	5.6	55,840	22.3	48,540	19.0	100,427	39.4	17,634	6.9
Turkey hunters[d]	2,291	15.0	7,789	51.0	1,675	11.0	1,994	13.0	--	--
Rabbit hunters	16,548	6.6	47,058	18.9	51,590	20.7	107,181	43.0	16,571	6.6
Quail hunters	6,534	13.9	12,282	26.1	11,804	25.1	11,367	24.1	2,672	5.7
Goose hunters	1,845	6.2	7,641	25.5	4,875	16.3	10,432	34.9	3,416	11.4
Duck hunters	12,368	7.9	39,619	25.3	27,653	17.7	55,264	35.3	11,503	7.4

	Beginning age (years)									
	18-24		25-34		35-44		45-54		55+	
Hunter segment[b]	Number of hunters[c]	Percent[c]	Number of hunters[c]	Percent[c]	Number of hunters[c]	Percent[c]	Number of hunters[c]	Percent[c]	Number of hunters[c]	Percent[c]
Deer hunters	10,310	4.0	3,237	1.3	2,642	1.0	--	--	1,235	.5
Turkey hunters[d]	821	5.4	710	4.6	--	--	--	--	--	--
Rabbit hunters	5,328	2.1	2,962	1.2	1,007	.4	--	--	1,235	.5
Quail hunters	2,439	5.2	--	--	--	--	--	--	--	--
Goose hunters	--	--	--	--	1.721	5.8	--	--	--	--
Duck hunters	7,082	4.5	1,184	.8	1,721	1.1	--	--	--	--

[a] Introduction to hunting in general, not hunting a particular species, game type, or using special weapons.

[b] Hunter segments defined by species hunted. Groups are not mutually exclusive in that a hunter could appear in more than one group. Inclusion in a segment is based on resident in-state hunting in at least one of hunters' five most often hunted locations.

[c] Dashes indicate that no person in the sample reported information on this item.

[d] Sample size less than 20 but greater than 10.

Table 212. Years of hunting[a], Louisiana hunters grouped by species hunted, 1980.

	Years of participation											
	1-2		3-5		6-8		9-11		12-15		16-17	
Hunter segment[b]	No. of hunters[c]	Percent[c]	No. of hunters[c]	Percent[c]	No. of hunters[c]	Percent	No. of hunters[c]	Percent	No. of hunters[c]	Percent	No. of hunters[c]	Percent
Deer hunters	7,267	2.9	22,390	8.9	24,161	9.6	24,837	9.7	32,043	12.7	25,319	10.1
Turkey hunters[b]	--	--	--	--	2,194	14.4	710	4.6	1,829	12.0	2,291	15.0
Rabbit hunters	16,257	5.5	22,532	9.2	22,644	9.2	22,950	9.3	37,134	15.1	24,226	9.9
Quail hunters	--	--	3,302	7.3	1,839	4.0	5,499	14.3	6,995	15.4	5,359	11.8
Goose hunters	--	--	2,764	9.2	3,493	11.7	1,013	3.4	5,360	17.9	2,035	6.8
Duck hunters	1,107	.7	16,148	10.5	14,863	9.7	12,732	8.3	19,238	12.5	15,870	10.3

	18-24		25-34		35-44		45-54		55+	
Hunter segment[b]	No. of hunters[c]	Percent	No. of hunters[c]	Percent	No. of hunters[c]	Percent	No. of hunters[c]	Percent[c]	No. of hunters[c]	Percent[c]
Deer hunters	39,083	15.5	40,812	16.2	18,139	7.2	14,875	5.9	3,033	1.2
Turkey hunters[b]	913	6.0	4,352	28.5	1,208	7.9	1,233	8.1	550	3.6
Rabbit hunters	33,414	13.6	34,268	14.0	14,945	6.1	13,769	5.6	3,455	1.4
Quail hunters	4,624	10.2	7,460	16.4	7,007	15.4	1,475	3.2	863	1.9
Goose hunters	7,229	24.2	4,682	15.6	3,356	11.2	--	--	--	--
Duck hunters	22,506	14.6	24,853	16.2	11,315	7.4	12,844	8.3	2,356	1.5

[a] Years of participation in hunting in general, not hunting a particular species, game type, or using special weapons.

[b] Hunter segments defined by species hunted. Groups are not mutually exclusive in that a hunter could appear in more than one group. Inclusion in a segment is based on resident in-state hunting in at least one of hunters' five most often hunted locations.

[c] Dashes indicate that no person in the sample reported information on this item.

[d] Sample size less than 20 but greater than 10.

Table 213. Most important reason for hunting[a], Louisiana hunters grouped by species hunted, 1980.

Hunter segment[b]	Obtain meat		Problem animals		Be with family, friends		Sport recreation	
	Number	Percent	Number[c]	Percent[c]	Number	Percent	Number	Percent
Deer hunters	81,897	32.1	--	--	15,125	5.9	131,967	51.7
Turkey hunters[d]	5,240	34.3	--	--	1,835	12.0	7,624	49.9
Rabbit hunters	83,586	33.8	834	.3	12,680	5.1	132,936	53.7
Quail hunters	8,355	17.7	--	--	5,203	11.0	27,592	58.6
Goose hunters	6,858	24.4	--	--	3,538	12.6	15,855	56.3
Duck hunters	37,385	24.3	--	--	17.071	11.1	86,325	56.2

Hunter segment[b]	Be close to nature		Trophy		Other reasons	
	Number	Percent	Number[c]	Percent[c]	Number[c]	Percent[c]
Deer hunters	23,224	9.1	2,967	1.2	--	--
Turkey hunters[d]	579	3.8	--	--	--	--
Rabbit hunters	17,474	7.1	--	--	--	--
Quail hunters	5,948	12.6	--	--	--	--
Goose hunters	1,904	6.8	--	--	--	--
Duck hunters	11,627	7.6	1,193	.8	--	--

[a] Reasons for hunting in general, not hunting a particular species, game type, or using special weapons.

[b] Hunter segments defined by species hunted. Groups are not mutually exclusive in that a hunter could appear in more than one group. Inclusion in a segment is based on resident in-state hunting in at least one of hunters' five most often hunted locations.

[c] Dashes indicate that no person in the sample reported information on this item.

[d] Sample size less than 20 but greater than 10.

Table 214 Second most important reason for hunting[a], Louisiana hunters grouped by species hunted, 1980.

	Second most important reason							
	Obtain meat		Problem animals		Be with family, friends		Sport, recreation	
Hunter segment[b]	Number	Percent	Number[c]	Percent[c]	Number	Percent	Number	Percent
Deer hunters	62,061	24.3	4,536	1.8	48,004	18.8	76,453	30.0
Turkey hunters[d]	3,087	20.2	1,068	7.0	1,125	7.4	3,622	23.7
Rabbit hunters	55,806	22.5	4,536	1.8	51,012	20.6	68,320	27.6
Quail hunters	9,848	20.9	1,536	3.3	9,317	19.8	13,681	29.0
goose hunters	1,817	6.1	--	--	4,288	14.3	10,176	34.0
Duck hunters	27,178	17.5	2,837	1.8	32,170	20.7	47,245	30.4

	Be close to nature		Trophy		Other reasons		No reason	
Hunter segment[b]	Number	Percent	Number	Percent	Number[c]	Percent[c]	Number[c]	Percent[c]
Deer hunters	36,757	14.4	23,604	9.2	578	.2	3,188	1.2
Turkey hunters[d]	1,715	11.2	2,113	13.8	1,233	8.1	1,315	8.6
Rabbit hunters	44,365	17.9	13,524	5.5	1,863	.8	8,003	3.3
Quail hunters	10,497	22.3	903	1.9	--	--	1,315	2.8
Goose hunters	11,621	38.8	2,029	6.8	--	--	--	--
Duck hunters	39,386	25.5	2,743	1.8	1,233	.8	2,383	1.5

[a] Reasons for hunting in general, not hunting a particular species, game type, or using special weapons.

[b] Hunter segments defined by species hunted. Groups are not mutually exclusive in that a hunter could appear in more than one group. Inclusion in a segment is based on resident in-state hunting in at least one of hunters' five most often hunted locations.

[c] Dashes indicate that no person in the sample reported information on this item.

[d] Sample size less than 20 but greater than 10.

Table 215. Days of hunting and expenditures for equipment, Louisiana special weapon hunters, 1980.

	Hunters[a]			
	Bow and arrow		Muzzle loader[b]	
Type of game pursued	Total days[c]	Mean[c]	Total days[c]	Mean[c]
Big game	159,200	7	85,300	10
Small game	30,000	17	35,100	6
Migratory birds	--	--	4,400	4
Other animals	--	--	--	--
Days hunted in-state	161,100	7	103,600	15
Days hunted out-of-state	28,100	13	21,200	5
Total days	189,200		124,800	
Proportion of total hunting days[d]	1.5%		1.0%	
Expenditures for special equipment	$3,342,300		e	

[a] Hunter segments defined by special weapon used. Groups are not mutually exclusive in that a hunter could appear in more than one group. Includes Louisiana residents who used these weapons.

[b] Sample size of 10 or less.

[c] Dashes indicate that no person in the sample reported information on this item.

[d] Source: 1980 National survey of Fishing, Hunting, and Wildlife-Associated Recreation, U.S. Dept. of the Interior, Fish and Wildlife Service and U.S. Dept. of Commerce, Bureau of the Census. U.S. Gov't. Printing Office, 1982.

[e] Information not available.

Table 216. Age of introduction to hunting[a] and years of participation[b], Louisiana special weapon hunters, 1980.

	Hunters[c]			
	Bow and arrow		Muzzle loader[d]	
Age and years of participation	Number[e]	Percent[e]	Number[e]	Percent[e]
Beginning age:				
1-5 years	2,291	8.0	--	--
6-8 years	10,206	35.5	3,930	36.8
9-11years	5,185	18.0	3,664	34.3
12-15years	7,626	26.5	1,888	17.7
16-17years	1,208	4.2		
18-24years	1,208	4.2	1,208	11.3
25-34years	1,004	3.5	--	--
35-44years	--	--	--	--
45-54years	--	--	--	--
55-65years	--	--	--	--
65+ years	--	--	--	--
Years of participation:				
1-2 years	--	--	--	--
3-5 years	1,004	3.5	882	8.3
6-8 years	3,469	12.1	654	6.1
9-11years	4,512	15.7	2,334	21.8
12-15years	6,060	21.1	903	8.5
16-17years	4,108	14.3	--	--
18-24years	3,254	11.3	1,006	9.4
25-34years	5,492	19.1	2,541	23.8
35-44years	830	2.9	1,270	11.9
45-54years	--	--	1,100	10.3
55-64years	--	--	--	--
65+ years	--	--	--	--

[a] Introduction to hunting in general, not hunting a particular species, game type, or using special weapons.

[b] Years of participation in hunting in general, not hunting a particular species, game type, or using special weapons.

[c] Hunter segments defined by special weapon used. Groups are not mutually exclusive in that a hunter could appear in more than one group. Includes Louisiana residents who used these weapons.

[d] Sample size of 10 or less.

[e] Dashes indicate that no person in the sample reported information on this item.

Table 217.Reasons for hunting[a], Louisiana special weapon hunters, 1980.

Most important and second most important reasons	Hunters[b]			
	Bow and arrow		Muzzle loaders[c]	
	Number[d]	Percent[d]	Number[d]	Percent[d]
Most important:				
Obtain meat	8,930	31.1	3,119	29.2
Problem animals	--	--	--	--
Be with family, friends	1,125	3.9	--	--
Sport, recreation	14,723	51.2	7,571	70.8
Be close to nature	2,757	9.6	--	--
Trophy	1,193	4.2	--	--
Other reasons	--	--	--	--
Second most important:				
Obtain meat	8,468	29.5	1,513	14.2
Problem animals	--	--	--	--
Be with family, friends	5,025	17.5	2,396	22.4
Sport, recreation	7,035	24.5	3,119	29.2
Be close to nature	5,524	19.2	2,759	25.8
Trophy	2,677	9.3	903	8.5
Other reasons	--	--	--	--

[a] Reasons for hunting in general, not hunting a particular species, game type, or using special weapons.

[b] Hunter segments defined by special weapon used. Groups are not mutually exclusive in that a hunter could appear in more than one group. Includes Louisiana residents who used these weapons.

[c] Sample size less than 10.

[d] Dashes indicate that no person in the sample reported information on this item.

Table 218.Membership in organizations, Louisiana special weapon hunters, 1980.

Organization groups[b]	Hunters[a]			
	Bow and arrow		Muzzle loaders[c]	
	Number[d]	Percent[d]	Number[d]	Percent[d]
A	--	--	--	--
B	830	2.9	--	--
C	2,647	9.2	--	--
D	7,040	24.5	--	--
E	3,862	13.4	--	--
F	--	--	--	--
No organization	20,859	72.6	10,690	100

[a] Hunter segments defined by special weapon used. Groups are not mutually exclusive in that a hunter could appear in more than one group. Includes Louisiana residents who used these weapons.

[b] Groups include: A-Defenders of Wildlife, Fund for Animals, Friends of Animals; B-Trout Unlimited, B.A.S.S.; C-Ducks Unlimited, Nat'l. Rifle Association, Safari Club International; D-American Museum of Natural History, National Geographic Society, Nature Conservancy, Sierra Club, Wilderness Society; E-American Birding Association, Izaak Walton League, National Audubon Society, National Wildlife Federation, The Wildlife Society, World Wildlife Fund; and F-other organizations.

[c] Sample size 10 or less.

[d] Dashes indicate that no person in the sample reported information on this item.

Table 219. Participants, Louisiana angler groups, 1980.

Groups	Total	Percent of state population[a]	Percent of state sportsmen[a]
Fishermen by --			
Type of fishing:			
Freshwater[b]	752,100	24.6	73.4
Fishing location[c]:			
Large reservoir	214,800		
Small reservoir	126,500		
Natural lakes, ponds	314,300		
Rivers, streams	333,000		
Species fished[d]:			
Bass	409.600	13.4	40.0
Panfish	535,200	17.5	52.2
Walleye[e]	2,000	.06	.2
Pike[e]	1,900	.06	.2

[a] Population 16 years old and older. Source: 1980 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation, U.S. Dept. of the Interior, Fish and Wildlife Service and U.S. Dept. of Commerce, Bureau of the Census. U.S. Gov't. Printing Office, 1982.

[b] Includes Louisiana residents who fished freshwater in resident state.

[c] Includes Louisiana residents who fished these locations.

[d] Includes Louisiana residents who fished for species in state of residence in at least one of anglers' five most often fished places.

[d] Sample size 5 or less.

Table 220. Age of introduction[a] and years of participation[b], Louisiana freshwater fishermen[c], 1980.

Age of introduction and years of participation	Number of fishermen	Percent
Beginning age:		
1-5 years	139,325	18.6
6-8 years	239,360	31.9
9-11 years	162,261	21.7
12-15 years	99,302	13.3
16-17 years	25,098	3.3
18-24 years	51,718	6.9
25-34 years	17,152	2.3
35-44 years	8,740	1.2
45-54 years	3,232	.4
55-64 years	3,193	.4
65+ years	--[d]	--[d]
Years of fishing:		
1-2 years	16,404	2.2
3-5 years	36,351	4.9
6-8 years	49,318	6.6
9-11 years	76,584	10.3
12-15 years	90,433	12.1
16-17 years	33,642	4.5
18-24 years	121,256	16.3
25-34 years	121,952	16.4
35-44 years	87,211	11.7
45-54 years	74,169	9.9
55-64 years	28,435	3.8
65+ years	10,092	1.4

[a] Introduction to fishing in general, not fishing a particular species, fishing type, or method.

[b] Years of participation in fishing in general, not fishing a particular species, fishing type, or method.

[c] Includes Louisiana residents who fished freshwater in state of residence.

[d] Dashes indicate that no person in the sample reported information on this item.

Table 221.Membership in organizations, Louisiana freshwater fishermen, 1980.

Organization groups[a]	Fishermen[b]	
	Number	Percent[c]
A	--[d]	--[d]
B	16,667	2.2
C	36,371	4.8
D	34,821	4.6
E	49,802	6.6
F	7,244	1.0
No organization	677,579	89.8

[a] Groups include: A-Defenders of Wildlife, Fund for Animals, Friends of Animals; B-Trout Unlimited, B.A.S.S.; C-Ducks Unlimited, Nat'l. Rifle Association, Safari Club International; D-American Museum of Natural History, Nat'l. Geographic Society, Nature Conservancy, Sierra Club, Wilderness Society; E-American Birding Association, Izaak Walton League, Nat'l. Audubon Society, Nat'l. Wildlife Federation, The Wilderness Society, Nat'l. Wildlife Federation, The Wilderness Society, World Wildlife Fund; and F-Other organizations.

[b] Includes Louisiana residents who fished freshwater in state of residence.

[c] May total more than 100 percent due to membership in more than one organization.

[d] Dashes indicate that no person in the sample reported information on this subject.

Table 222.Other locations fished by Louisiana fishermen grouped by fishing location, 1980.

Anglers[a]	Fishing locations[b]			
	Large reservoirs	Small reservoirs	Natural lakes, ponds	Rivers and streams
	---number of fishermen---			
Large reservoir (10+ acres)		41,259 (19.2%)	46,189 (21.5%)	88,183 (41.1%)
Small reservoir (<10 acres)	41,259 (32.6%)		43,859 (34.7%)	78,635 (62.2%)
Natural lake, pond	46,189 (14.7%)	43,859 (14.0%)		137,484 (43.7%)
River and stream	88,183 (26.5%)	78,635 (23.6%)	137,484 (41.3%)	

[a] Angler segments defined by fishing location. Groups are not mutually exclusive in that a fisherman could appear in more than one group. Only rsidents are included in these segments.

[b] These fishing locations may or may not have been located in an angler's state of residence.

Table 223. Fishing participation, by state wildlife management regions, Louisiana freshwater fishermen[a], 1980.

Wildlife management regions[b]	Fishing trips Total	Fishing trips Mean	Days fishing Total	Days fishing Mean	Number of 1-day trips	Average miles from home[c]	Average hours per day fishing
221	7,369,300	21	7,977,000	22	6,724,100	29	5.0
222	2,134,000	16	2,267,900	17	1,842,900	24	4.7
223	392,500	18	382,100	18	349,100	69	3.9
224	2,090,700	14	1,837,400	12	1,747,500	30	5.3
225	1,830,400	18	1,910,000	19	1,523,500	29	4.4
226	1,145,800	13	986,400	12	1,040,600	47	6.1

[a] Includes Louisiana residents who fished freshwater in state of residence in at least one of anglers' five most often fished locations

[b] Regional data may be based on a small number of observations. See Figure 4 for a map of state regions.

[c] Miles one-way from home to usual fishing place.

Table 224. Expenditures, Louisiana freshwater fishermen[a], 1980.

Expenditure types	Total (Thousands of dollars)	Average per fisherman
Guide fees	--[b]	--[b]
Pack trip or package fees	1,065	1.35
Public land access or use fees	16	.02
Private land access or use fees	90	.11
Boat launching fees	2,177	2.77
Equipment rental fee	1,165	1.48
Total access-related expenses	4,461	
In-state access-related expenses	3,943	5.01
Total travel-related expenses[c]	89,300	
In-state travel-related expenses	80,000	101.65

[a] Includes Louisiana residents who fished freshwater in state of residence.

[b] Dashes indicate that no person in the sample reported information on this item.

[c] Includes food, transportation, and lodging expenses.

Table 225. Days of participation, by state wildlife management regions, Louisiana fishermen grouped by species fished, 1980.

Region[a]/angler segment[b]	Days fishing	
	Total[c]	Mean[c]
Region 221		
Bass fishermen	4,342,517	18.4
Panfish fishermen	5,004,769	19.4
Walleye fishermen[d]	--	--
Pike fishermen[d]	84,464	57.3
Region 222		
Bass fishermen	789,545	15.4
Panfish fishermen	1,394,256	14.9
Walleye fishermen[d]	--	--
Pike fishermen[d]	--	--
Region 223		
Bass fishermen	175,213	25.5
Panfish fishermen	237,785	15.7
Walleye fishermen[d]	5,967	5.0
Pike fishermen[d]	--	--
Region 224		
Bass fishermen	934,246	13.1
Panfish fishermen	1,279,309	12.3
Walleye fishermen[d]	--	--
Pike fishermen[d]	--	--
Region 225		
Bass fishermen	1,032,919	16.8
Panfish fishermen	1,328,574	18.7
Walleye fishermen[d]	--	--
Pike fishermen[d]	--	--
Region 226		
Bass fishermen	411,445	10.8
Panfish fishermen	485,664	11.3
Walleye fishermen[d]	4,894	6.0
Pike fishermen[d]	--	--

---

[a] Regional data may be based on a small number of observations. See Figure 4 for a map of state regions.

[b] Angler segments defined by species fished. Groups are not mutually exclusive in that a fisherman could appear in more than one group. Inclusion in a segment is based on resident in-state fishing in at least one of anglers' five most often fished locations.

[c] Dashes indicate that no person in the sample reported information on this item.

[d] Sample size 5 or less.

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Table 226. Age of introduction to fishing[a], Louisiana fishermen grouped by species fished, 1980

	Beginning age (years)									
	1-5		6-8		9-11		12-15		16-17	
Angler segment[b]	No. of anglers[c]	Percent[c]	No. of anglers	Percent	No. of anglers	Percent	No. of anglers[c]	Percent[c]	No. of anglers[c]	Percent[c]
Bass fishermen	84,995	20.8	154,567	37.9	67,900	16.6	42,686	10.5	13,019	3.2
Panfish fishermen	100,626	18.8	166,009	31.0	107,292	20.0	80,321	15.0	19,196	3.6
Walleye fishermen[d]	--	--	1,193	44.4	681	25.3	--	--	816	30.3
Pike fishermen[d]	2,945	48.3	2,233	36.6	925	15.2	--	--	--	--

	18-24		25-34		35-44		45-54		54+	
Angler segment[b]	No. of anglers[c]	Percent[c]	No. of anglers[c]	Percent[c]	No. of anglers[c]	Percent[c]	No. of anglers[c]	Percent[c]	No. of anglers[c]	Percent[c]
Bass fishermen	24,479	6.0	13,519	3.3	4,184	1.0	--	--	2,644	.6
Panfish fishermen	36,657	6.8	15,140	2.8	8,139	1.5	1,856	3	550	.01
Walleye fishermen[d]	--	--	--	--	--	--	--	--	--	--
Pike fishermen[d]	--	--	--	--	--	--	--	--	--	--

[a] Introduction to fishing in general, not fishing a particular species, fishing type, or method.

[b] Angler segments defined by species fished. Groups are not mutually exclusive in that a fisherman could appear in more than one group. Inclusion in a segment is based on resident in-state fishing in at least one of anglers' five most often fished locations.

[c] Dashes indicate that no person in the sample reported information on this item.

[d] Sample size 5 or less.

Table 227. Years of fishing[a], Louisiana fishermen grouped by species fished, 1980.

Angler segment[b]	Years of participation 1-2 Number of anglers[c]	 1-2 Percent[c]	 3-5 Number of anglers[c]	 3-5 Percent[c]	 6-8 Number of anglers[c]	 6-8 Percent[c]	 9-11 Number of anglers[c]	 9-11 Percent[c]	 12-15 Number of anglers[c]	 12-15 Percent[c]	 16-17 Number of anglers[c]	 16-17 Percent[c]
Bass fishermen	3,744	.9	18,542	4.6	16,418	4.1	53,310	13.2	49,523	12.2	18,305	4.5
Panfish fishermen	13,299	2.5	24,074	4.5	31,416	5.9	47,049	8.8	65,991	12.4	25,921	4.9
Walleye fishermen[d]	---	---	---	---	---	---	681	25.3	1,193	44.4	---	---
Pike fishermen[b]	---	---	---	---	---	---	---	---	---	---	2,051	33.6

Angler segment[b]	18-24 Number of anglers[c]	18-24 Percent[c]	25-34 Number of anglers[c]	25-34 Percent[c]	35-44 Number of anglers[c]	35-44 Percent[c]	45-54 Number of anglers[c]	45-54 Percent[c]	55-64 Number of anglers[c]	55-64 Percent[c]	65+ Number of anglers[c]	65+ Percent[c]
Bass fishermen	78,354	19.4	57,844	14.3	51,946	12.8	37,138	9.2	12,170	3.0	7,290	1.8
Panfish fishermen	83,002	15.6	37,312	16.4	66,249	12.4	57,288	10.8	20,559	3.9	10,092	1.9
Walleye fishermen[d]	---	---	---	---	---	---	816	30.3	---	---	---	---
Pike fishermen[b]	2,233	36.6	---	---	1,270	20.8	---	---	550	9.0	---	---

[a] Years of participation in fishing in general, not fishing a particular species, fishing type, or method.

[b] Angler segments defined by species fished. Groups are not mutually exclusive in that a fisherman could appear in more than one group. Inclusion in a segment is based on resident in-state fishing in at least one of anglers' five most often fished locations.

[c] Dashes indicate that no person in the sample reported information on this item.

[d] Sample size of 5 or less.

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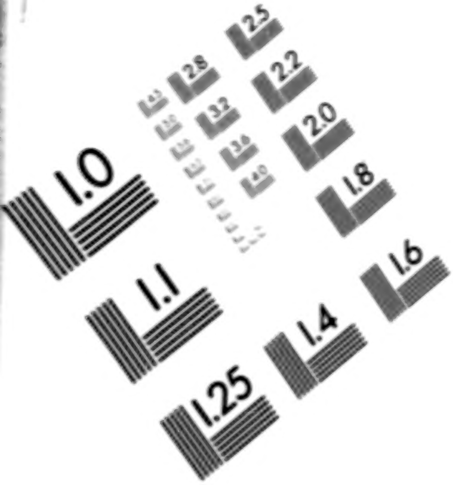

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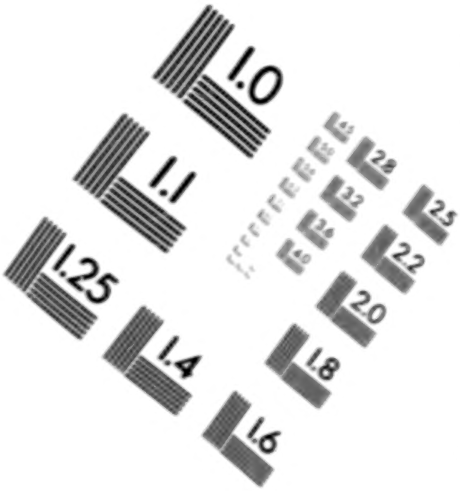

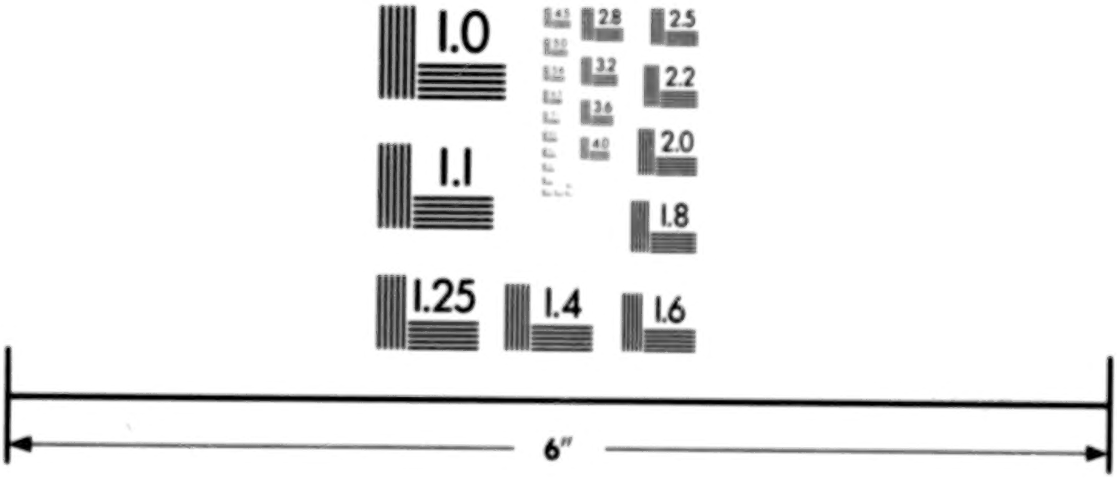

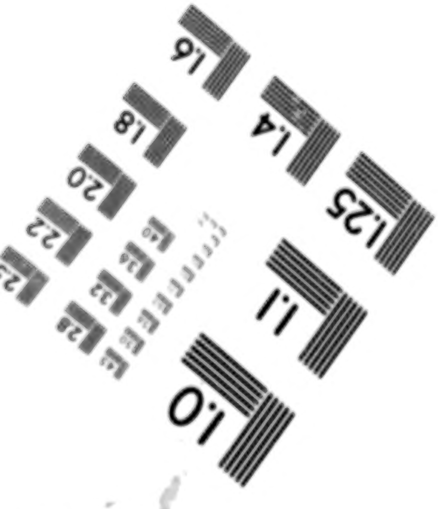

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